THE AMERICAN GAS LIGHT JOURNAL

PUBLISHED WEEKLY, AT NO. 42 PINE STREET.

VOLUME XCVII., No. 16.
Whole No. 1,949.

NEW YORK, MONDAY, OCTOBER 14, 1912.

Subscription, $3 Per Year.
$4 Canada, $5 Foreign.

INDEX TO CONTENTS, PAGE 241 . . . . . ADVERTISERS' INDEX, PAGE 26.

LIBRARY OF CONGRESS.
OCT 14 1912
SMITHSONIAN DEPOSIT.

Riter-Conley Manufacturing Company

STEEL CONSTRUCTION

Pittsburgh

GAS OVENS VS. VERTICAL RETORTS.

Berlin, Germany.

We are building a battery of Koppers horizontal Cross Regenerative Gas Ovens for the Berlin Gas Company.

Isn't that the place where they are supposed to have Dessau Verticals in their highest state of perfection?

It surely is, but the "World do move," and the Berlin Gas Company is wide awake.

Birmingham, England.

Here they have horizontals, inclines, and two different types of continuous verticals; and we are building a battery of cross regenerative gas ovens with a guarantee to produce better carbonizing results than they have obtained on any of their different types of retorts.

They Will All Come To It.

See our Brochures Nos. 3 and 4.

H. KOPPERS COMPANY,

CONSTRUCTORS OF BY-PRODUCT COKE AND GAS OVENS,

5 S. Wabash Avenue, - - - - Chicago, Illinois.

THE AMERICAN
GAS LIGHT JOURNAL

VOL. XCVII., No. 16. NEW YORK, OCTOBER 14, 1912. WHOLE NO. 1,949.

CONTENTS.

An Asterisk (*) Denotes an Illustrated Article.

*Squaring and Otherwise "Deforming" the Circle in New York City, by Mr. C. C. Simpson, Jr. 241
Educational Work of the N. C. G. A 246
Gas Collections, by Mr. F. J. E. O'Hara 247
NOTICE—
Tentative Programme, Seventh Annual Meeting, American Gas Institute 248
EDITORIALS—
Briefly Told 248
Membership in Gas Associations—Secretary Stotz Meets with Success—Metering High Pressure Gas—Current Mention.
Publications 249
Special Campaigns, by Mr. G. Edgar Smith 250
A Glimpse Respecting the Atlanta Meeting, N. C. G. A 251
Address of the President (Mr. William Baurhyte) on the Occasion of the Twentieth Annual Meeting. Pacific Coast Gas Association. 252
Juggling with Illumination, by Mr. E. L. Elliott 253
MANAGEMENT AND COMMERCIAL METHODS 254
*The Use of Oil Tar or Coal Tar in Gas Works.
Recent Patent Issues 254
ITEMS OF INTEREST FROM VARIOUS LOCALITIES 254
U. G. I. Returns are Instructive—Three Personals—Obituary Resolutions, the Late Mr. Alfred E. Moore—"Johnnie" Murphy's is no More—Mr. E. C. Braun on "European Utilities"—To Close the Morr (Ills) Plant—Coal Gas System for Pocatello, Idaho—Personal—Contract for the MacArthur Concrete Pile and Foundation Co.—Mr. Little Prints a Book—Extensions in Oregon—Rebuilding, at Watkins Glen, N. Y.—An Automobile as a Wire Stretcher - And So They were Married—And Other Items.
The Market for Gas Securities 256
Meeting Times of the Various Gas Associations 256
Public Lighting Table for October, 1912 (Advertising Section) 8

Squaring and Otherwise "Deforming" the Circle in New York City.

[Prepared for the JOURNAL, by MR. C. C. SIMPSON, JR., Engineer, Department of Mains and Services, Consolidated Gas Company, New York City.]

The circle in question is the cross-section of a cast iron pipe, from 30 inches to 48 inches. The squaring, and otherwise "deforming," of this ordinarily respectable form of gas conveyer rest in the manner in which it became necessary to alter its form and substance in order to obtain continuous lines of pipe in the city of New York.

During the years 1910 to 1912 (inclusive), the Consolidated Gas Company, of New York, planned to lay about 12 miles of 30-inch, 36 inch and 48-inch mains to extend its distribution and transfer system in Northern Manhattan and the Bronx. The laying of a main of any size, in either of these two boroughs, has become quite a problem, owing to the multiplicity of sub-surface structures to be encountered; but when one must deal with sizes 30 inches and above, we expect to (and do) find many places where it is practically impossible to secure the necessary space to lay cast iron pipe, wherefore special steel construction, as herein described, is the only economic alternative. I trust, therefore, that a description, together with illustrations, of some of the difficulties which presented themselves, showing our solution of the same, will be of interest to distribution men in general. I will not risk making the subject dry and uninteresting by going into the smaller details of construction and design; and, as each case in which such construction was resorted to is entirely separate and distinct from any other, dimensions being of little value will be practically omitted. I merely desire to show the initial difficulties and the final results, omitting the less interesting intermediate steps. All but one of these special crossings, called "boxes" for lack of a better name, were of steel. Cast iron, of course, has longer life than steel, and wherever possible we endeavor to have the necessary special shapes cast. A glance at some of the illustrations, however, will, I think, bear out the statement that, in practically all cases, this would have been a hopeless task, even though we had time to wait for the necessary patterns and fixtures to be made. In this city, however, we are very properly required to complete our work and replace the pavement in as short a time as possible; and sub-surface structures which are likely to prevent the employment of ordinary methods cannot as a rule be accurately located till uncovered. Therefore, if we need to lay a main at a given location, and cannot obtain the necessary shapes in cast iron, which, let us say, will last indefinitely, the question becomes one of abandoning the main entirely or else using steel shapes. Steel can be quickly obtained and fabricated, causing no long delay on the work, and, while it will not have the indefinite life of cast iron, it will, if electrolytic corrosion does not occur (we are comparatively free from that trouble in Manhattan and the Bronx), last as long as the main is of any service.

In all the cases described, where it has become necessary to depart from regular pipe and specials, the problem has resolved itself into one of changing the locations of all sub-surface structures which could possibly be moved, and in the space remaining (unfortunately never circular) squeezing steel shapes forming a gas conveyor of the required sectional area. A great many more boxes than are herein described were placed, but I have endeavored only to give one or two typical of each general class.

Figs. 1 and 2 show the special construction required to allow two

Fig. 1.

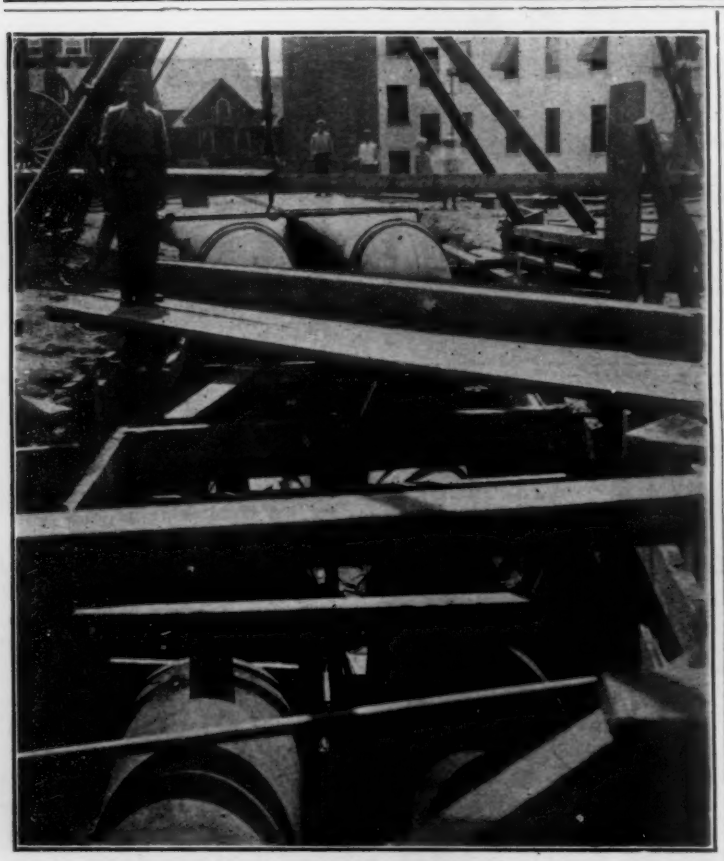


Fig. 2.

36-inch mains to cross the old Croton aqueduct, at Fordham Road, borough of the Bronx. This adqueduct (a brick lined, masonry structure, protected by a heavy earth embankment) was built many years ago, when the north end of the Bronx was practically farm land. The regrading of Fordham Road left but 6 inches of covering on the arch at that point, making it manifestly impossible to lay a main of any size over it, and as there had recently been a break in the wall of the aqueduct there, the Department of Water Supply, being afraid that the necessary tunnel to allow the mains to pass beneath would further weaken the structure, therefore, declined to grant us the necessary permit. The only alternative then (for it was quite necessary to lay along this street) was to carry the mains to the south of the building line, crossing the aqueduct with them there, and return again to the street. This proposition was further complicated by the fact that the top of the embankment is used occasionally as a roadway, and a pair of 36 inch mains make a rather formidable obstacle to traffic. However, we were finally granted permission to do the work as shown in Figs. 1 and 2, this type of construction extending but 6 inches above the original surface, with a gradual slope made up to the same on either side, allowing vehicles easily to pass over. In order that no strain would come on the aqueduct arch, concrete piers were placed in the embankment, on either side, and three 20-inch I-beams resting on these formed a bridge to support 2 rectangular steel boxes having the sectional area of the 36-inch mains. These boxes rest on angle clips, fastened to the web near the lower flanges of the I-beams, extending to within 1 inch of the top, and are protected from the strains of traffic by heavy steel cover plates securely fastened to the top flanges of the beams. The boxes were then connected up to the mains by special cast iron reducers, the details of this construction being shown clearly in Fig. 1.

A somewhat similar difficulty was encountered at 179th street and Park avenue, in extending one of these same 36-inch lines, the obstacle in this case being the depressed, 4-track, right-of-way of the Harlem Division, New York Central and Hudson River Railroad. We do not consider it safe practice to place large mains under railroad tracks; and even had the railroad authorities been willing to allow the main there, we know it would have been at best a very slow and expensive piece of work. Realizing, therefore, that we could not consider the carrying of the main under the tracks, we proceeded to place it above them, and here met with better conditions. Finding that the plate girder foot-bridge, on the line of 179th street, could easily carry the additional weight of a 36-inch main, plans were accordingly drawn up to reconstruct this bridge, raising the flooring and approaches sufficiently to allow the regular cast-iron pipe to be laid beneath, The city authorities, however, would allow this floor to be raised but 18 inches. As 18 does not contain 36 an integral number of times, it became necessary to "square the circle" by designing a rectangular box, having its height enough less than 18 inches to allow clearance under the flooring and width great enough to make up the required area of gasway. As we had ample working space, it was possible here (and this is the only case of all those encountered on the work herein described where it was possible) to construct the box of cast iron, and we decided to do so in view of the injurious effect of locomotive smoke on steel. Fig. 4 shows this box in place, and in Fig. 3 can be seen one of the special reducers con-

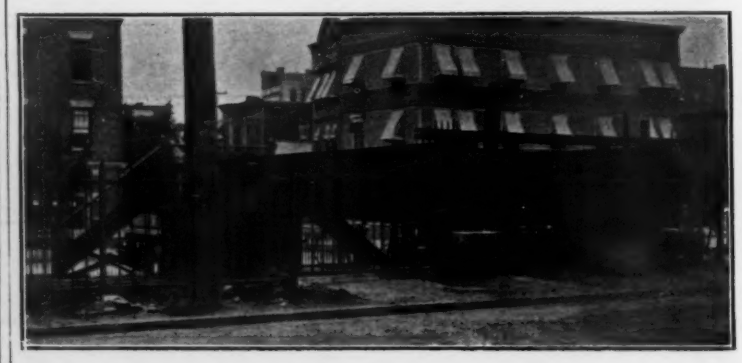


Fig. 3.

necting it to the main. Heavy millboard gaskets were used in making up all of the flanged joints, expansion and contraction being taken care of by the lead joints at the point the reducers enter the main. To economize space as much as possible, it was necessary to lay the flooring on longitudinal I-beams, fastened to the top of the box, these being placed directly over the sides of the central partition; and, on account of the width of the sections (6 feet 1 inch) it was thought advisable to provide additional strength by dividing them longitudinally with a heavy cast iron wall. Fig. 4 shows this construction before the flooring was placed.

Fig. 4.

During the summer of 1911, in laying a 48-inch main across 127th street, Manhattan, the intersection of this street with Amsterdam avenue was found to be a point where the existing sub-surface conditions made it almost a physical, and certainly an economic, impossibility to lay ordinary cast iron pipe and specials. Fig. 5 shows

Fig. 5.

a cross-section of this intersection as we found it, only the larger sub-surface structures, which could not be temporarily removed or changed, being shown here. The most important of these were two large trunk sewers, seating on the solid rock—one 60-inch, one 48-inch, and two 36-inch water mains; which, together with a nest of smaller water mains, culverts, duct lines and manholes, and the underground construction of the surface railroad, made conditions look anything but promising.

In order to lay regular cast iron pipe through this intersection, it would have been necessary to excavate to a depth of 20 feet, 5 feet of which would have been through solid rock. In view of the proximity of the large water mains and sewers to this rock, removal by means of blasting could not be considered, and, as a matter of fact, would have been contrary to a city ordinance. Wedging out this material would have been an exceedingly slow and expensive operation, and would have required suspension of the numerous sub-surface structures from the surface meanwhile. Anyone who has seen the damage caused by the breaking of a large water main or sewer will be able, I think, to appreciate the necessity of the greatest care in handling such structures. This lower location being considered impractical and dangerous, we decided that the safest, and at the same time the most economical, method to "square the circle" was by squeezing a steel box, having the approximate sectional area of a 48-inch pipe, into the space available. In passing, I may say that it was impossible to obtain a photograph of this box in position, the great number of underground structures between it and the surface practically obscuring it. Fig. 6, however, shows it assembled in the contractor's

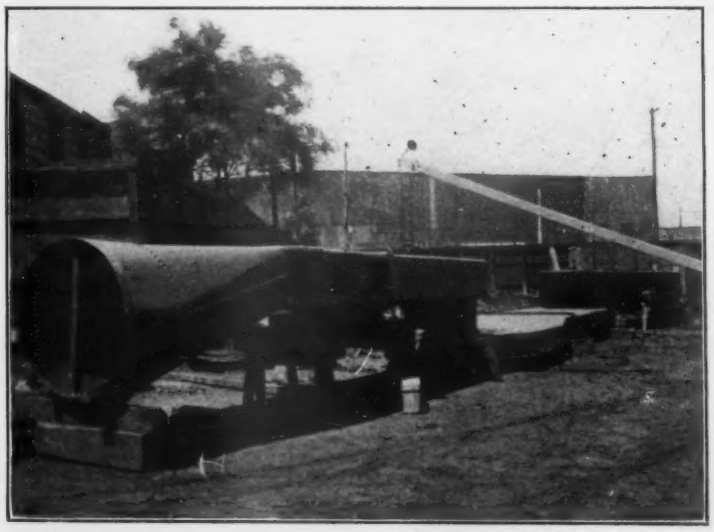


Fig. 6.

yard, ready for delivery. An uncharted reef, in the form of a duct line, the position of which we were unable to alter, made it necessary to add a section, which accounts for the difference in the box, as shown in Figs. 5 and 6.

Several block further east on this same 48-inch main somewhat similar sub-surface conditions were encountered, the principal difficulty here being eight 48-inch water mains, 4 feet below the street surface, resting on solid rock, and immediately east of these a duct manhole of no modest proportions. As this point is near the top of a very steep hill, untold damage from the flow of water would have resulted had one of these mains been broken, so that removal of the underlying rock to allow our pipe to pass beneath seemed out of the question. Placing the risk involved from possible breakage on one side the scales, and on the other side the fact that it was possible to avoid this danger altogether by means of a steel box, we decided on the latter type of construction. The design of this box was further complicated by the fact that the joints on the water mains had been staggered. To allow caulking room for such joints as came directly under the box, its vertical dimension had to be shortened considerably, and its horizontal dimension correspondingly increased in order to obtain the required area of gasway. Fig. 7 shows a cross section of this intersection with the box in place, and Fig. 8 is an illustration showing the same connected up to the main, ready for backfilling.

A few blocks east of this point it again became necessary to "square the circle" in order to carry this 48-inch main across the Lenox avenue branch of the Rapid Transit Subway, a 2-track steel and con-

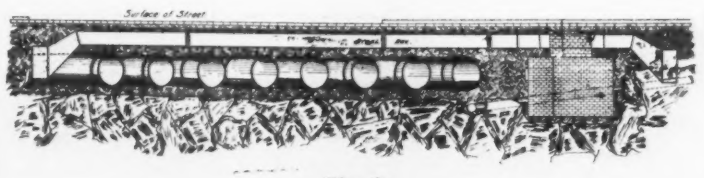


Fig. 7.

Fig. 8.

crete tunnel with the top of its roof barely 18 inches below the street surface. It was, of course, impossible to lay straight 48-inch pipe over this structure, and we did not regard it either a safe or economical proposition to tunnel under a railroad of this character, our views on this subject meeting with the unqualified approval of the operating company and the Public Service Commission. Accordingly, we obtained permission to cut out two adjacent roof sections, and replaced them with flat arches heavily reinforced with 3-inch I beams. This afforded additional space in a vertical direction, and it was possible to approximate closely the area of a 48-inch pipe with the twin steel box shown in an inverted position, Fig. 9. This box consists of

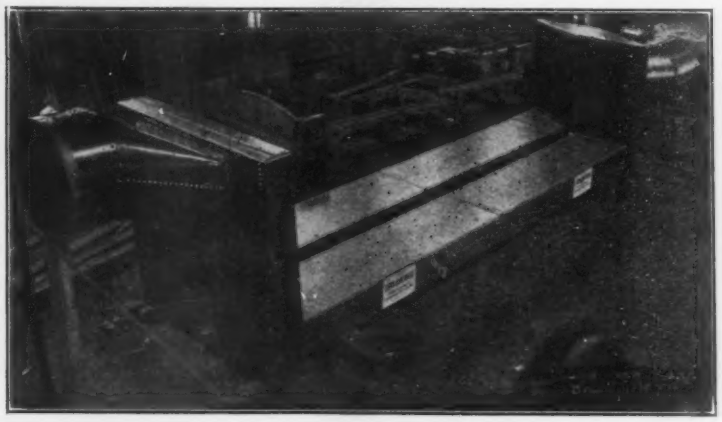


Fig. 9.

2 rectangular portions, running through the flat arches, joined at each end by irregularly shaped headers, which in turn are connected to the main by steel reducers. Fig. 10 shows as much as can be seen of this box from the street surface. The building of the subway through this avenue, which naturally crowded all smaller sub-surface structures into the space between its walls and the street curbs, rendered it a difficult matter to find space to place headers of the required area, which accounts for the peculiar shape of the latter, particularly the one shown on the right hand side of Fig. 9. Notwithstanding the great irregularity in the shape of this box, which, of course, increased the difficulty of fabrication, it was found to hold an air pressure of 5 pounds, on the first test, without leakage. After the rectangular sections had been placed in the flat arches it was necessary, on account of their proximity to the surface, to protect

Fig. 10.

them from the strain of street traffic. To provide this protection, as well as to afford additional strength to the subway roof, a heavily reinforced concrete slab was placed over the whole area disturbed before the pavement was replaced.

An operation very similar to the one just described was necessary at 149th street and Morris avenue, Bronx, where we were again obliged to cross the branch of the subway with a 48-inch main. The box designed for this crossing (see Fig. 13) is very similar to that described for 127th street, with the exception of the headers and reducers, at this point sub-surface conditions allowing a more graceful design of the latter.

Fig. 11 is a section view of the intersection of 114th street and First

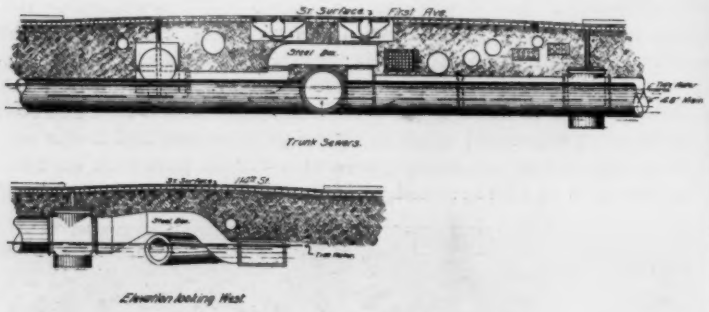


Fig. 11.

avenue, Manhattan, where again it was found necessary to resort to steel construction in crossing the avenue and at the same time making a right angle turn with a 48-inch main. Three large, brick-trunk sewers meeting at this point, coupled with the fact that tidewater was found 8 feet below the street surface with an underlying soil of quicksand, made conditions appear anything but promising. A glance at Fig. 11 will show that, in order to lay ordinary pipe and specials, it would have been necessary to pass directly under 2 of the sewers, with a strong probability of undermining and breaking them, at the same time disturbing adjacent building foundations through the movements of the shifting soil. Compressed air methods were suggested, but were laid aside as a last resort, the only possibility in this line being a shield-driven tunnel—this is, of course, a very slow and costly type of work, requiring considerably more space than was available to set up the necessary plant. Straight line crossings of this character have been made by jacking the lengths of pipe through the soft soil, but this method is not without its drawbacks and is not practical where a right angle turn must be made. With these facts in mind, we drew a series of straight and curved lines through the space available, after all possible obstructions had been removed, finally obtaining the steel box shown in Fig. 12, which shows the box complete, with the exception of the steel drip pot. The placing of this box, while rather laborious work, owing to the very limited working room and the amount of street traffic, was completed in but a fraction of the time required by other possible methods, and with absolutely no risk of damage to adjacent structures.

This 48-inch line recrosses 1st avenue at 93d street, and again it was

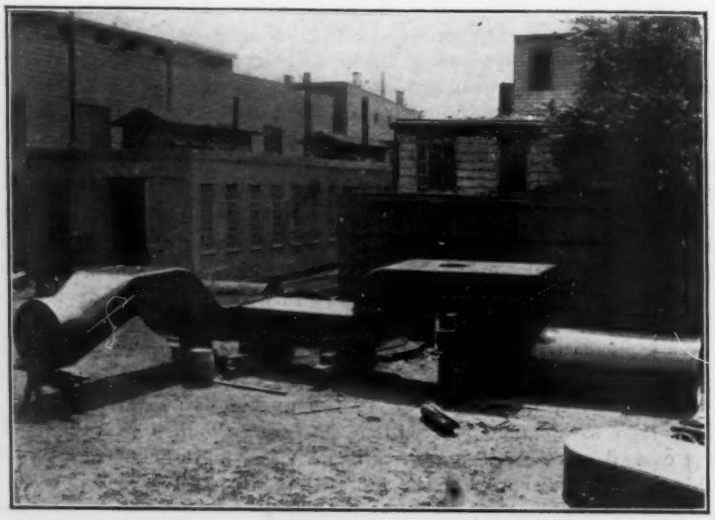


Fig. 12.

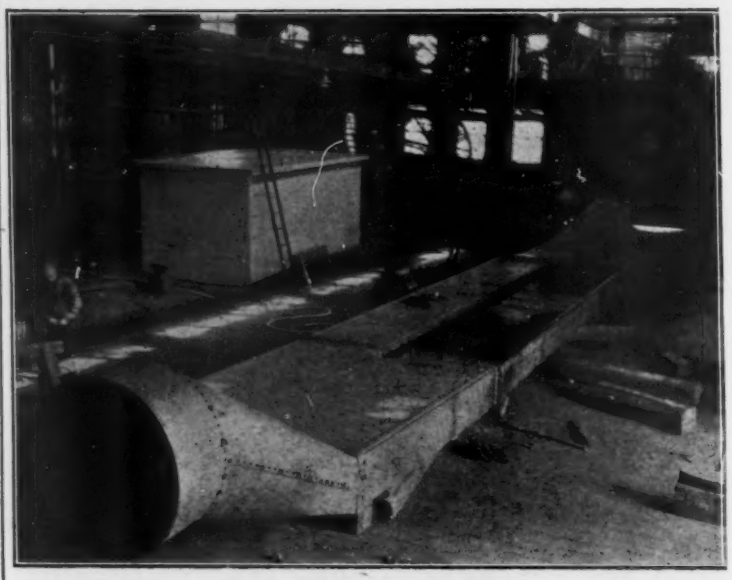


Fig. 13.

necessary to design a box of the same general character as that described for 114th street, having practically the same conditions as to tidewater, sewers and other sub-surface obstructions to contend with, though as the available space was of a somewhat different shape, the dimension of the box to conform to this space was, of course, quite different. Fig. 14 shows the two sections ready to be placed, the method of joining the same readily being seen in the picture.

Fig. 14.

It does not usually fall to the lot of the distribution department to design bridges, but we have come to expect almost anything on large pipe work in New York city. While laying a 48-inch main along Morris avenue, borough of The Bronx, this year, we again encountered the New York Central and Hudson River Railroad Company's depressed right-of-way, and, for reasons already fully explained in

connection with other railroad crossings, dismissed the idea of tunneling under the tracks. As it was impossible to obtain permission to cross on the highway bridge, we decided to build one of our own, across which it would be possible to lay regular cast iron pipe. The construction of a 90-foot plate girder bridge is by no means a noteworthy engineering feat, but such a structure built for the sole purpose of carrying gas mains is somewhat of a novelty. Fig. 15 is a

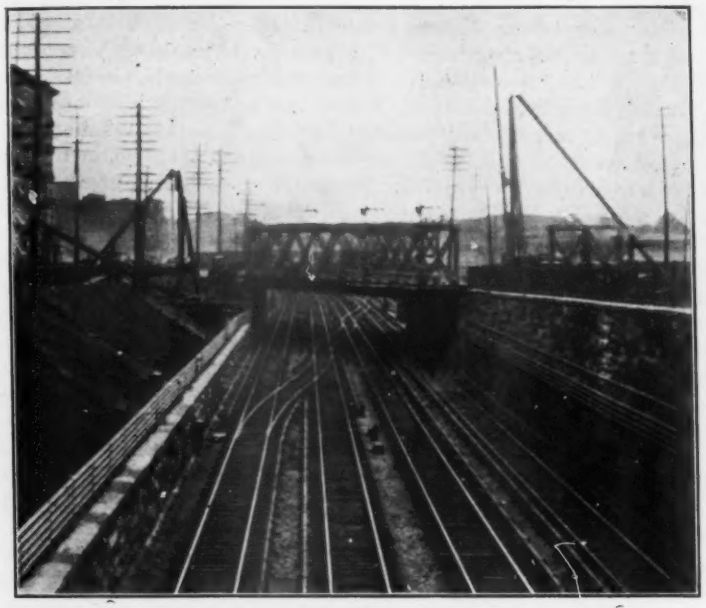


Fig. 15.

view of the railroad cut before work was begun, and Fig. 16 shows

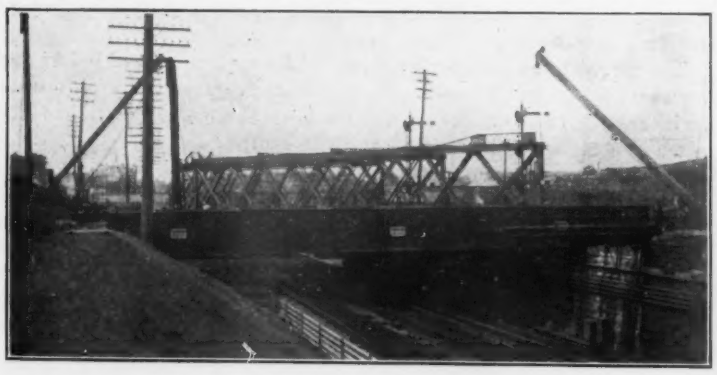


Fig. 16

the girders in place. It was necessary to carry these girders clear of the sodded slope, seen on the left, as a fifth track is shortly to be added here. Fig. 17 shows one of the three sections as delivered from

Fig. 17.

the shop, and Fig. 18 is a view looking through the bridge, showing the 48-inch main in place, together with two 12-inch mains laid at the same time for future distribution needs. Special steel reducers were necessary to drop under ground from the level of the main on the bridge, one of these being shown in Fig. 19. Though this whole crossing may appear a somewhat complicated piece of work, the cost has been very much less than it would have been had tunneling methods been employed, and, instead of leaving the main in a dangerous location, it is now absolutely safe and readily accessible at all times.

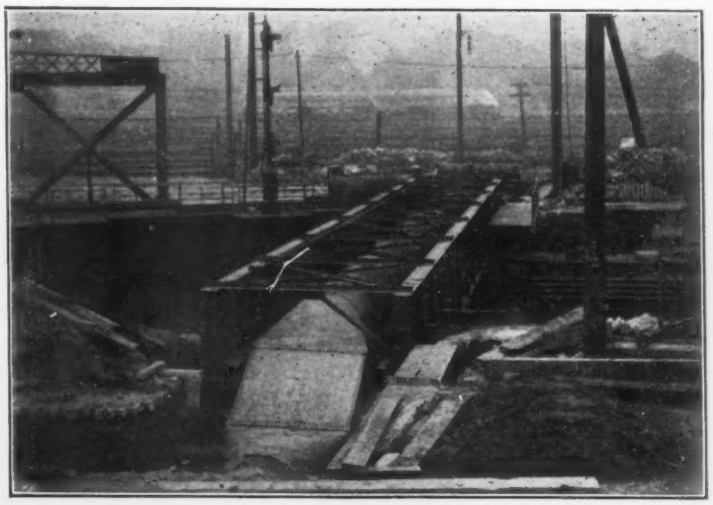


Fig. 18.

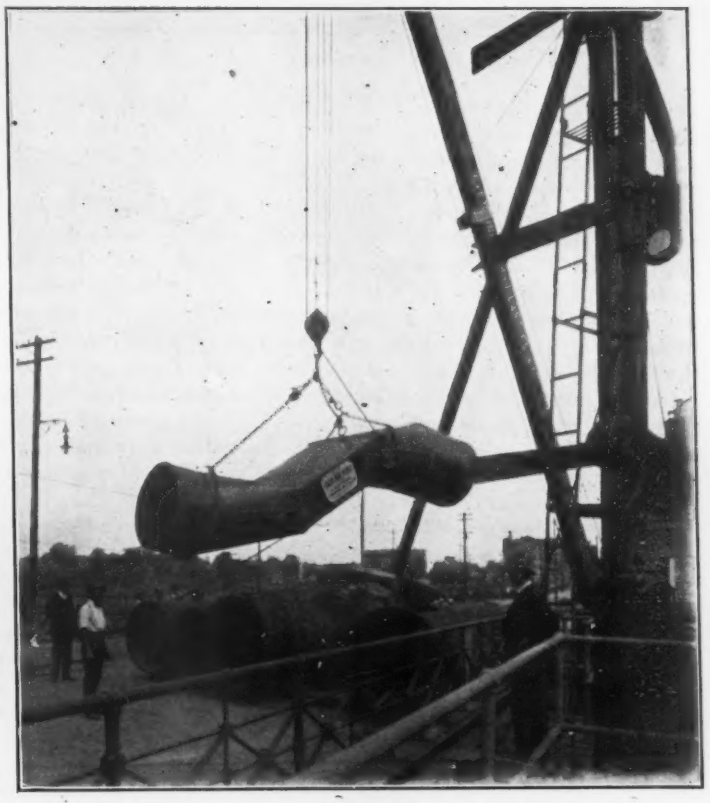


Fig. 19.

Fig. 20 has the appearance of a sea serpent, but is in reality a steel box, designed as a substitute for a 30-inch main crossing the tunnel of the New York Central and Hudson River Railroad Company at 65th street and Park avenue, Manhattan. The 30-inch transfer main laid here many years ago passed under and very close to the railroad tracks, and, in the progress of this year's overhauling work, it was decided to eliminate if possible this danger point; the fact that no serious trouble had as yet occurred here being no assurance that the same conditions would obtain in the future. The only possible solution of the problem was the placing of a steel box through the roof arches of the tunnel, provided the required area of gasway could be obtained. This proved quite a difficult problem, however, as the roof here consists of a framework of 15 inch I-beams, with brick arches between, the concrete base for the asphalt pavement resting directly on the brickwork. As it was necessary to provide bracing below the box to take care of the thrust of the adjacent arches, and also to place cover-plates on the top flanges of the beams to prevent any strain from street traffic coming on the box, we found that the height of the boxes would be limited to 10 inches. As the roof beams were but 4 feet, center to center, to obtain the required area it was necessary to use two adjacent arches, placing a box in each, joining the same at the ends by sections somewhat similar in shape to a pair of trousers. The space between the beams and the boxes was filled with rammed sand to avoid leaving any pocket in which an explosive mixture

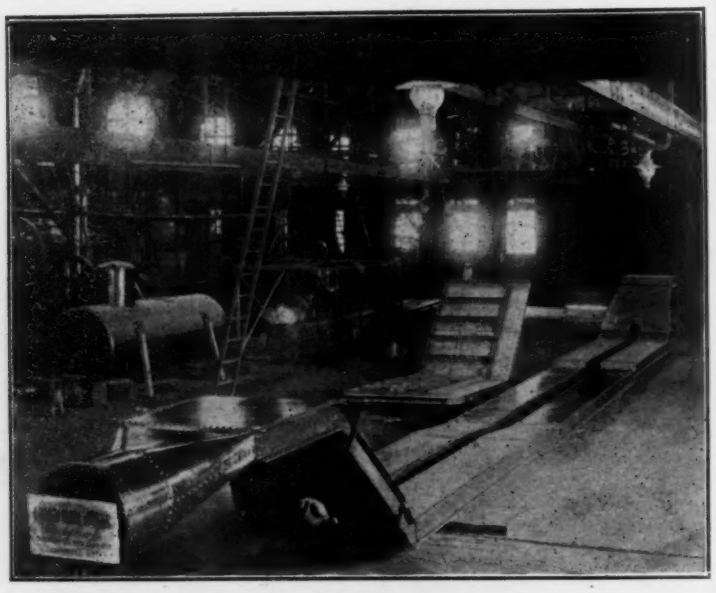


Fig. 20.

could collect in the event of a leak developing. As a general proposition, all of these steel boxes were built from heavy structural shapes and ¼ inch steel plates, sufficient stiffening and bracing being provided to take care of any possible strain due to street traffic. All boxes were required, when finally placed in the ground, to hold 5 pounds air pressure before being accepted from the contracters—the Logan Iron Works, Brooklyn, N. Y. All shop connections were rivetted and calked, but field joints were made of flanges bolted together with heavy millboard gasket between. One of the hardest problems in the design of these steel substitutes for cast iron pipe was the laying out of these field joints, it being necessary to cut the boxes up in sections which could be handled in the trench and, at the same time, to leave all joints accessible in case leaks should develop at any time. Before being placed in the ground all steel work was painted with 2 coats of red lead, and, before backfilling, a third coat was applied where necessary.

As each problem presented itself an analysis was made of the cost of the apparently possible solutions, and in each case the figures showed steel construction to be very much cheaper than any other method. However, as I have tried to emphasize, the element of first cost was not by any means the deciding factor. We were first interested in the safety and accessibility of the main; then, in the possibility of damage being done during the progress of the work to important sub-surface structures and other property, including, of course, our own; and it was found in all casses that the two latter factors carried along the elements of decreased cost and at the same time allowed more speedy completion of the work when steel construction was used There were a great many points on the work described bristling with engineering difficulties, but where regular cast iron pipe and specials could be laid with safety they were, of course, laid. This was the rule, however, and as we are here presenting the exceptions, the following of the rule we will dismiss as merely an incident in the day's work.

Educational Work of the N. C. G. A.

The following is the argument advanced by Mr. Louis Stotz, Secretary, N. C. G. A., in connection with enrollment of classes as to the educational work of the Association:

It is a privilege to be with you. At the outset I wish to thank all for their presence, and further to acknowledge the courtesy of the officers of your company who have so kindly given me this opportunity of addressing you. The fact of your being here is an indication that you are all more or less interested in the educational work that the Association is conducting.

I will not burden you with a long talk, and will endeavor to confine my remarks to the specific reason for being here; namely, to interest every member of the N. C. G. A., and those who are not. No matter whether salesmen or connected with another department of the company, all have before them an opportunity which could not be duplicated. Probably many of you are members of the Association, hence are acquainted with its aims and objects; but, for the benefit of those who are not, I would say that the need for a Commercial Gas Association was suggested by Mr. L. S. Bigelow, the publisher of "Gas Industry." In 1905 a meeting of 13 gas men was held and that was the nuclus of our present organization which now numbers 3,000 members.

The Association was born with the idea of stimulating an interest in the commercial end of the business, such as the sale of appliances, increasing the output of gas, etc., and to afford the gas men and manufacturers of appliances an opportunity of getting into a closer and more friendly business and personal relationship. There is no doubt that the Association, in its 8 years of activity, has been of benefit to the industry, by keeping its members in touch with commercial progress, by means of a "Monthly Bulletin," and the holding of annual conventions with exhibitions of gas consuming appliances, has been a means for diseminating ideas and knowledge all of which has been appreciated by its members, the gas companies and the manufacturers.

This leads us to the point where the Course in Gas Salesmanship was suggested by Mr, P. S. Young, Comptroller of the Public Service Gas Company, of New Jersey. He felt that the Association could do nothing that would meet with more approval and be of greater benefit to our members than to offer some form of educational opportunity to them. Accordingly (July, 1910), a Course was started called "Gas Salesmanship," lasting 10 months. Dr. Lee Galloway, an educator of some prominence in the East, connected with the New York University, was secured as Director of the Course, and a committee of 9 well-known men were appointed to confer with him as to the scope of such work. A series of 10 lectures was prepared, and a class of 725 members enrolled. The lectures were sent the students, one each month. The lectures were accompanied by 10 questions which, when answered, were returned for correction, criticism and rating. At the end of the Course those members who had satisfactorily passed were granted a certificate of merit, and about 125 of those enrolled in the First Class, which ended in May of this year, received certificates.

The awarding of certificates placed these men on record before their own and other companies as men who were progressive and interested in increasing their efficiency, and no doubt their ability will be recognized in some substantial form by their companies.

The first course embraced the following subjects covering as you will see the important functions of the salesman and bringing to their attention many matters essential to one who would be successful. At the end of the First Course the committee felt that the inauguration of this work had resulted in such a favorable reception by the members that it would be well to start another Course, along broader lines, to start September 1st. Dr. Galloway was engaged to act as Director, and a Course (known as Part II.) has been mapped out, covering the following subjects:

The Gas Company, the Government and the Public.
Principles of Corporate Organization and Interdepartmental Relations.
Manufacturing.
Distribution.
Auditing and Purchaeing.
Selling.
Specific Campaigns.
Applications and Credits.
Installations of Meters and Appliances.
The Order Department and Dispatch.
Meter Reading, Consumers' Records and Collections.
Complaints and Correspondence.

The new Course, you will note, has been outlined so as to give men from every department an oprortunity of broadening their knowledge and gaining an intimate acquaintanceship with the functions, not only of their own but of every other department in the company, an opportunity which I am sure will appeal to every one present.

Now, gentlemen, some of you may be a little skeptical as to the value and benefits which can be obtained from a correspondence course such as this must necessarily be; but it is a fact that large financial and industrial establishments, in all parts of the country, are encouraging their employees to take correspondence courses to fit them for carrying on their work more efficiently. Many of the Universities are now conducting courses by correspondence, and the University of Wisconsin has enrolled 5,000 students in its Course in agriculture alone.

"Sheldon" has enrolled from 60,000 to 100,000 students, and the

"Scranton Correspondence School" has more students than are existing in all colleges and universities put together. The "Alexander Hamilton Institute," during the two years of its existence, has enrolled in the neighborhood of 10,000 students.

When you contrast the tuition fee which the N. C. G. A. asks of its members ($5 for the entire course) with the charges of the other schools, ranging (as they do) from $60 to $120, I am sure you will be easily convinced that a great opportunity is placed before you, and then you will all see your way clear to enroll in one or both of these classes. The only restriction placed upon those enrolling is that they must be members of the Association, the annual dues of which are $5.

In order to offer additional facilities for gaining the most from the lessons, we propose to form company classes, who will appoint a leader and Dr. Galloway will keep in close touch with the class instructor. Regular meetings of those classes will be called for a full discussion of the lectures, and the members will then be able to more fully grasp the points touched on and apply them to their own situation. My reason, gentlemen, for being with you is to secure your interest, have you enroll in the course, and also form a class. Your company may appoint a leader and the class will be ready for its work at once. The first and second lectures of the new course are now ready for distribution and will be sent you immediately. I would also mention that the original (or Part I. course mentioned) will be repeated for this year, to give new members an opportunity to join the class. * * * The Association is anxious to be of value to its members and is not in business for profit or to pile up a surplus for dues. The running expenses are about equal to the income, and we are always endeavoring to do something which will benefit our members. I thank you for giving us the opportunity of laying this proposition before you, * * *.

Gas Collections.

[Prepared by Mr. Frank J. E. O'Hara, for 21st Meeting, Michigan Gas Association.]

In these days of vast undertaking and complex business human ingenuity has been busy perfecting the art of accounting; and I believe it is a recognized fact, by the management of large business enterprises, that proper accounting, in its most minute details, is essential to the successful and economical conduct of their business.

The paper which I am reading will treat in a general way upon the collection end of this accounting, as followed by the Port Huron Gas Company. The writer will not venture the opinion that the system as outlined is the best that can be devised, but will say, from past experience, we have found it practical, efficient and economical in results. We understand there exists a great diversity of opinion regarding systems to be employed in connection with the reading of meters, rendering bills and accounting for and collecting them. No two companies use exactly the same method, though all are striving to reach the acme of perfection in this respect.

The collection of gas accounts is of much importance to all companies, and the method of handling same should be as simple and accurate as possible. That is the plan followed by our Company, and I am safe in saying we are successful.

When a prospective customer makes application for gas he signs a contract as shown below:

Fuel .....Light.....

No..... .. 191 ...

.....hereby make application to the Port Huron Gas Company for gas to be supplied on the premises, No. ..... Street, occupied by .....as a..... and agree to pay for the same promptly, at the regular rates and according to the rules of said Gas Company.

.....also agree to be responsible for all gas used on said premises until forty-eight hours after notice, in writing, has been duly given at the office of said Gas Company, to discontinue the supply.

.....further agree....that the agents of said Gas Company shall have free access to the meter and its connections at all reasonable hours; may remove the same for any purpose; or upon....failure to comply with any of the rules of the said Gas Company, or for any indebtedness whatsoever; may in addition, sever the connection with the service pipe and discontinue the service. Deposit-Guarantee .....

No.....Amount, $..... .....

Occupant.

I hereby guarantee the fulfilment of the above obligation on the part of said Applicant.

Witness..... .....

. ...191.... Owner.

Moved from.....St.

Order taken and Witnessed by .....Office—Solicitor.

In this application he states his desire to use gas at a certain address, that he will pay for same promptly at the regular rates and according to the rules of said gas company; and, further, that the said company shall have free access to the meter and its connections at all reasonable hours, and is at liberty to remove the same for any indebtedness whatsoever. As we do not require a deposit, the party is asked to kindly wait while the application is referred to the bookkeeper, who passes upon the credit. This is done through reference to his past account, the previous address or last place of using gas being shown at the bottom of the card; also, by reference to the "Bad Debt Ledger." If the account is clear the credit is passed and the meter set. If there is an account standing against the applicant the bill is presented to him, and if it is for gas consumed for a time greater than 60 days, the customer is told in polite way that it will be necessary to pay the bill before a meter can be set. It is a rare occurrence that the account is not settled when presented. If the applicant is a new consumer, his general appearance, the locality in which he lives and his occupation are taken into consideration. If conditions warrant it, a regular meter is set; if not, he is asked to use a prepayment meter and sign a prepayment application, which differs from the regular application in that he agrees to be responsible for all gas used on his premises, even though the prepayment attachment fails to operate, it being understood that, in such case, the register of the meter will determine the amount. Our meters are read the last 6 days of the month and entered upon the ledgers of the bookkeeper. They are then passed to the billing clerks, who place the readings upon the gas bill, which is (a postal card) as below:

IMPORTANT, That you bring this bill to office when paying same
July Gas Bill, 1912

To PORT HURON GAS COMPANY
Phone 86 514 Water St.

July Bill, 1912

Collector

Gas Used from June to July , 1912

0 0	RATE 95c per M Less
0 0	10c per M for prompt paym't
0 0	Cu Ft. Used

Previous

Total

Last Discount Day Aug. 10.

Previous

Total

The account numbers, names and addresses of bills have previously been printed on by the addressograph. The amounts are put on with rubber stamps, after all readings are entered. They are then checked back with the ledger by the bookkeeper. All the bills are in the Post Office the first day of the month, except the 2 months' bills. These are kept out and gone over by the cashier, and those which in his judgment warrant it are given to the collectors who call the customer's attention to the bill, explaining the rules of the Company in regard to accounts running over the month, saying we believe it merely an oversight on his part or the account, of course, would have been paid. This helps to keep accounts within 1 month. A discount of 10 cents per 1,000 cubic feet is allowed on the bills paid by the 10th of the month. The posting of paid bills is kept up each day enabling us to get delinquent ones out promptly after the 10th. For this purpose we use the following collection slip:

This form is usable for 18 months and is kept as a matter of record for the collector. It gives a great deal of valuable information covering the collection, enabling us to act promptly and wisely when occasion demands it. At the time of preparing the collection slips the bookkeeper makes out a list of all 2 month accounts. This list is given to the cashier for the purpose of securing prompt action from the collectors, who are given as many of the slips as they are able to handle in a day. Each night they report their work back to the cashier who instructs them as to further procedure if the account is not paid or a satisfactory date made for its settlement. In handling future dates, we use a pigeon-hole case, so arranged as to give a space for each day of the month, and as the dates are made, the collection slip is placed in the cabinet for that date. As our accounts

(*Continued on page* 250.)

THE AMERICAN GAS LIGHT JOURNAL

Entered at the Post Office, New York City, as Second-Class Matter.

Published weekly at 42 Pine Street, New York City.

Telephone Call, John, 2996. Cable, Am-Gas.

A. M. CALLENDER & CO., - - Proprietors.

THOMAS J. CUNNINGHAM, ELBERT P. CALLENDER, } Editors.
H. THURSTON OWENS, - Associate.

CHARLES H. WADELTON, Manager.

Agents—American News Co., 11 Park Place, New York City.
Lemcke & Buechner, Berlin, Germany.
Aug. Siegle, 30 Lime Street, London, England.

TERMS OF SUBSCRIPTION.

United States, Cuba and Mexico, $3 per year. Canada, $4 per year. All other countries, $5 per year.
Single Copies, 10 Cents.

NOTICE TO ADVERTISERS.

New Advertisements and changes of copy therefor should be in hand Wednesday noon of week prior to date of issue.

NEW YORK, MONDAY, OCTOBER 14, 1912.

[NOTICE.]

Tentative Programme, Seventh Annual Meeting, American Gas Institute.

According to the "Gas Institute News," dated October 1st, the programme (tentatively) for the Seventh Annual Meeting of the American Gas Institute, which is to be held in Atlantic City, N. J., Wednesday, Thursday and Friday, the 16th, 17th and 18th October, has been thus arranged:

Wednesday.—10 A.M. to 1 P.M.:

Address of Welcome.

Response.

Report Board of Directors (including the following reports from Committees, Regular and Special):

Technical; Membership; Secy.-Treas.; Finance.

President's Address.

Reports from Committees (Nominating; Wrinkles; Bureau of Information; Publication; Public Relations; Beal Medal; Arrangements; Affiliation.)

Wednesday.—8 to 10 P.M.:

"Public Service Commissions," by Mr. A. S. Miller.

Extracts from "Bulletin No. 32," Bureau of Standards.

Reports of Committees: (Calorimetry; Thermal Value and Candle Power; International Photometric Commission; International Uniform System of Pipe Threads; Consumers' Meters.

Thursday.—10 to 12 A.M. Section A.—Manufacture:

"Photometry of Incandescent Gas Lamps," by C. O. Bond.

"Effect of Various Diluents on the Candle Power of Oil Gas," by A. H. Elliott.

"Some Recent Developments in Gas Measuring," by E. C. Thomas.

Thursday.—10 to 12 A.M. Section B.—Distribution:

"Industrial Appliance Laboratory," by H. B. McLean.

'Utilization of Gas Appliances," Report of Committee on.

Thursday.—2 to 5 P.M. Section A.—Manufacture.

"State of the Art in Coal Gas Manufacture," by Mr. W. H. Blauvelt.

"Standardizing Carbonization Tests of Coal," Report of Committee on.

"The Value of a Weight Balance in Coal Gas Manufacture," by C. J. Ramsburg.

Thursday.—2 to 5 P.M. Section B.—Distribution:

"Small Unit Gas Engine," by Carroll Miller.

"Effect of Cold Weather on the Gas Industry," by C.W. Andrews.

Friday.—10 A.M. to 2 P.M.

"Heat Balance in a Carbureted Water Gas Set," by O. B. Evans.

"Analysis of Water Gas Purification Material, and Determination of Tarry Matter in Water Gas Purification," by E. C. Uhlig.

"Allowed Strains in Gasholder Designs" (Committee Report).

BRIEFLY TOLD.

MEMBERSHIP IN GAS ASSOCIATIONS.—A most important factor in the development of the gas business to-day is the work done through the influence of our gas associations. The more important associations to which gas men belong, total as follows: Straight gas, 17; combination, 6; natural, 1. The memberships registered in the straight gas associations have increased from something over 6,000 to nearly 7,000 during the past year, and a like increase is probable during the coming year, if the present association activities continue. A point not frequently referred to is the representation; and the desired 100 per cent. is nearly realized in several of the State Associations.

Membership in American Gas Associations, 1912.

Name.	Years Old.	Members. Active.	Associate.	Junior.	Honorary.	Company.	Total.	Dues.	Representation. Represented.	Not Represented.
Am. Gas Inst.	6	1,023	237	120	3	...	1,383	$10	*	*
Natl. Com....	7	2,725	...	...	1	115	2,841	***5	450	600
Illinois.....	7	161	56	7	..	...	224	5	50	*
Indiana.....	4	92	60	...	..	...	152	5	46	8
Iowa.....	7	93	56	...	2	...	151	3	69	19
Michigan.....	19	165	137	...	7	...	309	3	38	9
New England.	41	136	101	...	5	...	242	*	...	*
New Jersey...	1	101	...	...	6	...	107	5	...	*
Ohio.....	1	....	..	...	..	250	250	**	...	*
Pacific Coast.	19	222	79	...	4	...	305	5	32	*
Penna.....	3	68	43	...	..	..	111	5	41	49
Southern.....	4	130	67	...	..	...	197	5	44	72
Wisconsin....	12	108	82	..	..	...	190	3	31	9
Canadian ...	4	45	61	. .	2	...	112	10	50	10
Guild.....	32	40	24	...	5	...	69	20	28	*
Meeters	1	200	...	...	..	...	200	****	...	.....
Society.	37	46	...	..	4	...	50	****	*	*
Empire State	7	75	12	...	..	..	87	**	30	*
Illuminating.	6	1,473	.	...	..	...	1,473	5	*	*
Kansas.. ...	14	92	52	...	10	...	168	3	4	none
Missouri.. ..	15	28	37	...	2	...	67	*	16	*
Oklahoma.. .	2	80	30	...	..	...	110	5	2	2
Southwestern.	8	139	147	...	7	...	293	**	22	7
Natural.....	6	661	...	13	9	...	683	5	143	.....

* Not reported. ** Percentage basis. *** Company dues on a population basis. **** Not fixed.

The newest feature, and without doubt the most important, is that of company membership, which means not only a larger and more flexible field of obtaining revenue, but it also brings into much closer relationship the guiding hands of the leaders in the business. This form of membership has been adopted by the National Commercial Gas Association, and is really the only class in the newly formed Ohio State Gas Association. The increase in membership in our associations has been accompanied by considerable increase in activity in a number of directions that have hitherto remained comparatively unexplored, such as exhibitions, publications and the like. Let the good work go on.

SECRETARY STOTZ MEETS WITH SUCCESS.—Elsewhere we reproduce the main arguments that were to be put forward by Mr. Louis Stotz, Secretary N. C. G. A., on a special trip taken by him to induce applications for membership in the special educational classes maintained by the Society. Now, in supplement thereto, that gentleman having started on his journeyings, we are advised that his first few visits were eminently successful. Up to the present date, the 11th inst., he had visited New Haven and Hartford, Conn., and Boston, Haverhill, and Lowell, Mass. Manager Frank Roberts, of the Haverhill Company, called a meeting which was attended by 50 of the men,

and the work of enrolling them was started at once. Meetings were arranged for by Messrs. J. A. Norcross and A. R. Burr, at New Haven; G. S. Motley and F. D. Cadwallader, at Lowell, and E. N. Wrightington and R. C. Ware, at Boston, with a view toward explaining the work being undertaken and encouraging the men to join the Correspondence Classes.

METERING HIGH PRESSURE GAS.—The Sprague Meter Company, of Bridgeport, Conn., has issued a data card for use in connection with the metering of gas under high pressures ranging from 1 to 30 pounds, the factors or constants being as follows:

High Pressure. Lbs.	Constants for Various Selling Pressures.						
	2 Inch	3 Inch.	4 Inch.	5 Inch.	6 Inch.	8 Inch.	10 Inch.
1....	1.063	1.06	1.0577	1.0551	1.0526	1.0475	1.0424
2....	1.13	1.128	1.1251	1.1224	1.1197	1.11427	1.1089
3....	1.198	1.1955	1.1925	1.1897	1.1868	1.181	1.1754
5....	1.334	1.3306	1.3274	1.3242	1.3209	1.31456	1.30827
8...	1.537	1.5334	1.5296	1.526	1.5222	1.5149	1.5076
10....	1.6726	1.6685	1.6645	1 6604	1.6564	1.6484	1.6405
15....	2.0114	2.0065	2.0016	1.9967	1.9918	1.9823	1.9729
20....	2 35	2.345	2.3387	2.333	2.32736	2.31614	2.3050
25....	2.689	2.6823	2.6758	2.6693	2.6627	2.65	2.63729
30....	3.0276	3.0202	3.0129	3.0056	2.9983	2.98383	2.96954

These factors are applied as follows: The regular meter reading is multiplied by the constant found under the pressure at which gas is ordinarily supplied and opposite the high pressure at which it is being delivered. This Company reports that the placing of meters being regularly used under pressures of several pounds are increasing very rapidly.

CURRENT MENTION—

THE Gas Machinery Company, of Cleveland, O., has been awarded a contract for the placing of a 24 inch ammonia concentrator for the recovery of volatile and fixed ammonia produced in the plant in Niagara Falls, Canada. This machine will be installed in a new building, and provision will also be made for duplication of the apparatus at any time in the near future.

THE Brown Instrument Company, and its associate (the Keystone Electrical Instrument Company), have found it necessary to arrange for triple the space that they now occupy. The construction or arranging of the additional space will have to be completed by January 1st, 1913. The Companies' business in pyrometers, thermometers and electrical instruments has increased so largely this year that, to keep up with the demands, additional factory accommodation became an absolute necessity.

MR. JOHN J. GARRISON, Manager gas division of the Rathbone-Sard Company's stove works, informs us that Mr. Carl C. Williams, formerly with the General Gas Light Company, and well known amongst the gas men of the New England States, has joined its selling force. He will represent the Rathbone-Sard folks in Southern Pennsylvania, Maryland, Delaware and on to tidewater in Virginia.

THE Worcester (Mass.) Gas Light Company will build, at the intersection of Quinsagamond avenue and Lafayette street, that city, a holder up to retaining four millions cubic feet. It will rest in steel tank, is to be in 4 lifts, and will be 210 feet in diameter and 160 feet in height. The builders are the Riter-Conley Company, of Pittsburgh, Pa.

MR. AUGUST C. WITTE has been appointed Commercial Manager of the Fall River (Mass.) Gas Company, vice Mr. Frank W. Roberts, whose promotion to the post of Manager of the Haverhill (Mass.) Company was noted by us some time ago. Mr. Witte is sure to be as successful in Fall River as he has been in Haverhill, which is saying virtually that he met (in fact) exceeded) every expectation of his employers.

AGAIN is Mr. F. Harrold, of the field division of the Camden Iron Works, Camden, N. J., to be congratulated over work successfully completed. Early this month the test of the new holder (up to retaining 500,000 cubic feet of gas), just completed to the order of the Macon (Ga.) Gas Company, was made, and the vessel was shown to be complete in every respect.

"V. A. M.," writing from Reading, Pa., under date of the 4th inst., says: "A test case is to be made of the city ordinance which requires gas companies to install stopcocks at the curb line of consumers' services. At least it would so seem when Judge English, on petition of R. L. Jonce, allowed an appeal from the judgment of Ald. Yarnell, who fined the Company $50 for not having installed the proposed stopcock when making gas connections to this property on North Sixth street, Reading."

Publications.

[All Publications, Catalogues, etc., mentioned below, are kept in our office for the convenience of our patrons.]

One Thousand Uses for Gas.—Persistence is recognized as a most valuable asset in advertising, and the United Gas Improvement Company is seeking to take every advantage of this fact in issuing a monthly publication for manufacturers, in which are illustrated and described the uses of gas in manufacturing processes. These pamphlets have been issued since June 1st, and besides being persistent advocates, the get-up and ensemble have been no wise neglected in respect of the art of the printer, pressman and photographer.

Fixture Campaigns.—Some of the reasons for campaigning with gas fixtures, and a number of attractive designs suitable for that purpose, are described and illustrated in a folder recently issued by Messrs. Shapiro & Aronson, New York city. Amongst the Companies listed that are actively pushing these fixtures are: The Public Service Gas Company, of New Jersey; the Boston Consolidated Gas Gas Company; the Springfield (Mass.) Gas Light Company; and the United Gas Improvement Company.

Lighting Data.—Additional data sheets on lighting have been issued by the Welsbach Company covering definitions, illumination intensities, window lighting and several types of ignition systems. When writing ask for "Lighting Hardbook Sheets."

Publicity Engineering.—The increasing scope and importance of publicity work along engineering lines are phases of scientific management. That there is a sharp distinction between the carrying out of engineering work and the art of retail selling goes without saying. So the requirements of each are well set forth in a pamphlet on "Publicity Engineering," issued by Walter B. Snow, Boston, Mass.

Manila Rope.—To many rope seems not an object of importance, to gas men in general, in fact, that it is only of particular interest to few, but the opposite is the case, for it is of great interest. Get the C. W. Hunt Company Catalogue 12-B and you will find much of value concerning the use of manila rope for transmission and hoisting.

Light. Its Use and Misuse.—The much discussed primer of illumination, prepared under the direction of the Illuminating Engineering Society, will soon be ready for distribution. A special edition was printed for the recent convention, and it will receive a much more extended review when the Society is ready to go ahead with its general distribution. Judging by comparison, this pamphlet could undoubtedly bring a fair selling price; and by fair we mean one not all on the low scale.

Lamp Campaigns.—The success of the campaign method of placing modern gas appliances in use is well-worth extended description, and this has been accorded the matter in good manner by the Welsbach Co., through or by the agency of a handsome pamphlet, entitled: "Reflex, 647, Campaign." It is more than an advertising booklet, for it is a telling argument favoring swift work in the lighting field these glorious autumn days so as to swell the lighting harvest that should be reaped during the long winter nights.

Keith Lamps.—The introductory catalogue covering the Keith high pressure lighting system is now ready for distribution. It describes the lamps and the method of operation along with several illustrations of their use. Copies can be obtained by writing the Keith Light Company, 10 Wall Street, New York.

Brass Goods.—A compact catalogue of brass goods and miscellaneous supplies has bsen issued by The McRae & Roberts Co., of Detroit. Ask for No. 11.

Capital and Rates.—An address by Mr. Frederick Strauss, of J. & W. Seligman & Co., delivered at the University Club, New York, March 7, 1912, on the occasion of the dinner by Mr. J. G. White, to the J. G. White Club. Printed in pamphlet form, and issued by J. G. White and Co.

(*Continued from page 247.*)

are not allowed to run longer than 2 months, these dates or future calls must necessarily be within the week. The collector explains to the customer, who is informed, it will he necessary for him to meet the obligation at the next call. I can safely say, when the collector is prompt in keeping his various appointments, and using, if I may be allowed the expression, "Sugar in place of Vinegar" in a sincere and firm way, in 8 out of 10 cases the account it paid.

The keeping of every appointment is one of the most important rules with our collectors, and as the number of days for the collections is short, and the calls many, it is necessary for the success of the department that the rule be strictly adhered to. Where we find that, on the second call of the collector, the account is not paid, and after all just and proper means have been used in trying to effect a settlement without avail, we send the following shut-off notice:

COLLECTION SLIP.

Route.....No.....

.....

.....

Month.	Gas.			Remarks and When Paid.
For'd.				
May..				
June.				
July..				
Aug..				
Sept..				
Oct...				
Nov..				
Dec..				
Jan...				
Feb..				
Mar..				
April.				
May..				
June.				
July..				
Aug..				
Sept..				
Oct...				
Nov..				
Dec...				

Account No.....
Name .....
Address .....

PORT HURON GAS COMPANY,
514 Water Street.

Port Huron, Mich.,.....

Mr.....

Your bill payable on or before..... for gas consumed at.....is unpaid at this date: Amount $.....

Please pay the above amount at this office on or before....., or we shall assume that you do not wish to continue the use of the gas, and will understand that we are at liberty to turn it off and remove the meter. We shall act on this understanding if payment is not made as above requested.

Respectfully,
PORT HURON GAS COMPANY,
Per
Cashier.

It is easier by far to collect an account 1 month old than one run-2 months. A 3-month account is expensive, and short accounts mean long friends. The collection slips we use are treated as a card system, are made a constant reminder of accounts due and falling due, and are filed ahead from time-to-time, or until the account is settled or otherwise disposed of.

The collection of accounts at the office is also a matter worthy of serious thought. All customers, whether users of gas or electricity, should be schooled in the advantage of reading their own meters. We carried on a campaign, previous to the use of the postal card system, by printing on the back of the bill full instructions "How to Read a Meter." This we found of great value. It eliminated half the complaints where the basis of complaint is expressed in the feeling that "My meter wasn't read right." Of course, I admit we do make mistakes in the reading of the meters, and where the customer has overlooked or not paid any attention to the instructions in reference to the reading of his meter, but comes down to the office with blood in his eye ready to "Clean us out," we are very careful to get this party away from the other customers; for, as the old saying goes, "One rotten apple, if left in a bushel of good ones, will in a short time have the others in the same condition." The bookkeeper goes over the matter carefully with him, explaining the working of a meter and how to read it, and then, where it is possible, has the consumer go back to his meter and compare the reading—in a large number of cases the customer comes back satisfied. No man or department coming in contact with the public can do more to mould the goodwill of the people to the company than the department handling the complaints. The important thing to be desired is to attend to these complaints in such a manner as to leave the customer with no illwill toward the company. These men and the men doing outside work are in the minds of our customers "The Company," even more than the manager or other executive officers; and, considering that the goodwill of the people depends upon the proper treatment of these complaints, whether they be imaginary ones or otherwise, it is necessary they should be given every attention. Their accounts should be gone over carefully and a comparison of previous bills made, testing and explaining the operation of the meter, and where this is not sufficient to convince the customer, a competent man should be sent to the house—right into the seat of the trouble. He should be a man competent to examine the various appliances, adjust them properly, if necessary, and thoroughly explain the method of operating the appliances to the best advantage, showing the customer how and where to economize.

I question the somewhat common practice of changing meters upon a complaint that the bill is too high, believing that it leaves in the mind of the consumer the idea that the company was in doubt as to the meter's correctness; for the average customer, even if he witnesses the test of the meter, is still inclined to doubt its correctness, believing that there remains some trick by which the meter can be made to test "O. K.," and he will leave the test room feeling that he has been hoodwinked in some way. So we have found it of greater advantage to follow the plan of investigating the appliance, getting the housekeeper acquainted with appliances and the method of economizing in their uses. I have used our solicitors a great deal in this work and have always obtained results for the new business department. Many are the complaints that have resulted in the placing of new and more modern appliances.

In conclusion I will say that personal effort and moral suasion, coupled with diplomacy and gentlemanly demeanor, go a long way toward swelling the collections and at the same time do not disturb the otherwise friendly feeling the customer may have for the company. Collections promptly made are extremely essential to the company and the constant aim of the collection department. With a determined and well-defined follow-up system, universally applied and strictly adhered to in the matter of collection when due, the company has taken an attitude which, from the very nature of things, must exert a decided influence, educational in effect, upon the customers in general, and cannot result otherwise than in materially reducing the per cent. of slow-paying customers, likewise the bad debt account, which we all should like to see eliminated.

Special Campaigns.

[Read by MR. G. EDGAR SMITH at the September Meeting Newark Division, Public Service Gas Company of New Jersey, at the Company Section, N. C. G. A.]

Being requested to talk on special campaigns, it was suggested that I give some facts on the selling points, management and effect of those campaigns on the distribution and bookkeeping departments.

It is generally known that the campaign itself is planned at the home office; that is, as to the articles which are to be sold, the price, the terms upon which they are to be sold, the contract forms, the advertising literature to be used, the terms of commission or salaries to be paid and the general manner in which the campaign is to be conducted. This in itself would seem to leave very little for the local agent or the person whom he put in charge to handle the matter. Yet these are only plans and specifications. The real building up and success of the campaign are up to the representative. The degree of success depends on the material selected, in the supervisors and

the selling staff, with whom the managers surround themselves. Special campaign work in itself is peculiar. It cannot possibly be conducted on the same lines as those which govern the regular salesman. For example—it cannot be conducted between regular hours; say from 8 A.M. until 5 P.M. The manager, the supervisor and the men themselves must realize that, during this campaign, there is no such period of time as "real hours," for the reason that the supervisor himself, in order to hold his staff, must assist them in closing sales and make many night calls. If the supervisors do not help their men to close contracts, thereby enabling them to make money, they will be hampered by frequent desertions from their staffs. This being so, it can easily be seen what an important factor the supervisor is to the campaign. It is he who must see that the men canvass the territories allotted them and that the fundamental idea of the campaign is carried out. That is, a real house-to-house canvass, a real floor-to-floor canvass, a real family-to-family canvass. No matter what I have said before, or what I may say afterwards, a ring should be drawn around this paragraph, for after all here is the main spring of the entire work.

It is the supervisor, too, who must see that the conduct of his men with the people is what it should be, and that the conduct of the men as representatives of the gas company, on the streets as well as in the houses, is what it should be. We must all remember that the gas company stands in a different attitude toward the public than any other company in other lines of business, for the people we are canvassing are not only prospective customers, but consumers with whom we are doing business 52 weeks of the year; so, even though a sale is not affected, it behoves us to smile just the same. It should be remembered that the success of the campaign to the company does not mean altogether how many thousand reflex lights, arcs, or other appliances are sold, for, after all, we are selling our product—gas; and these appliances are only sold and installed to give the consumer better service.

From my experience in two campaigns, the one in which we sold 9,700 reflex lights in Jersey City, with an untrained crew of a combination salesman-and-mechanic, was less successful than the one just finished, where we only sold 5,300 irons in Jersey City, but where we aimed, and in many cases succeeded, to train the men as to their real relationship toward our consumers. This is exemplified to my mind in no better way than by the proof of the records kept of the water heater, range and other appliance prospects, that were turned in by the men, and the many complaints that we are able to adjust through these men.

Bookkeeping.—The effect the special campaign has on the bookkeeping, clerical and collection departments is more work; more work generally means more pay, if done willingly and correctly. The bookkeeping force shonld be in perfect accord with the campaign, as also should the entire office force. After all the success is not due to one man or some few men, but rather to a helping hand all along the line; and on this co-operation depends future campaigns, and on future campaigns depend to a great degree increased business and better times for all concerned. Due criticism should not alone be attributed to selling and delivery, but to the method in which our records of sales is kept by the bookkeeping department. Could there be an improvement in that department?

The clerical department should ascertain the percentage of complaints received regarding the installation, and how long it took to rectify these mistakes. Are these complaints the fault of the goods, the price, or the method of installation? We should know, and also know on which of these three do we receive the most complaints, and what percentage (we keep this record in Jersey City).

Has every employee in every office, where the campaign is inaugurated, been supplied with literature bearing on the campaign? If not, why not?

Has every agent in every district a sample on his floor of every article that is being campaigned? Do all know what stock we have on hand? Do we all see that we have enough stock on hand? Do we all tell our families, our neighbors, our friends, all about the campaign, and do we all bring them home some of our advertising matter?

In conclusion, would say to the men actually engaged in selling these articles, be sure to make a house-to-house canvass, and enter in your memorandum book prospects of ranges, water heaters and other appliances, for such record is a large factor in recommending men for promotion. I would say, get acquainted with the collectors, shop men, or any other employee of the "Public Service," since they can place you in the way of many good prospects.

Be sure and leave plenty of advertising matter, as you can never tell when you will get a prospect from same. Do not forget to impress upon customers the fact that the goods which the "Public Service" is selling are guaranteed to be the best in every respect, and that we are trying to better their service, that their troubles are our troubles, and that we are willing to take them up. After the sale of an arc or dome, the salesman should make it a point to call to see how the installation has been made, for the visit often results in more business or prospects for some other customers.

Remember that the No. 251 Reflex light will not take the place of a 3 or 5 mantle arc. The supervisor who has been trained in your business knows what and when and to whom the sale is being made; and remember that in the "Iron" campaign, 15 men were promoted to permanent positions with the Public Service Gas Company, and that, in the "Home Light" campaign, previous to that, we promoted 10 men from that staff to permanent positions in the sales' department.

Distribution.—As to the relation of the campaign to the distribution department, it has been said that the success of a gas company's relation with the public depends to a very great extent upon the selling staff and the shop men; or, from the public's standpoint, the delivery and installation departments.

A great English poet wrote long ago, "Man wants but little here below;" but when he wants that little he wants it quick. A thorough understanding between the selling staff and the shop force can, to my mind, be best brought about the realization of the fact that each is dependent upon the other. The selling staff certainly needs the shopman's help, and the shopman certainly needs the selling staff's help. If the shopman does not deliver when the article is expected or promised, and does not connect up the appliance within a reasonable time and in a correct manner, or treats the consumer in any but courteous way, or does not take care of complaints promptly, and return void orders promptly, so an attempt can be made to save them, there soon won't be any selling staff.

Special campaigns mean more work for the shop, more men employed, with fewer shop men laid off, and a more prosperous condition generally.

A Glimpse Respecting the Atlanta Meeting of the N. C. G. A.

Of course, "glimpses" as to sources should never be revealed, but in this instance respecting that which is in the air over the coming convention of the National Commercial Gas Association in Atlanta, Ga., we imagine that, to show the glimpse is not a mirage, we may say that the vista here reported is from the vision of "J. C. R.:"

Dazzling in brilliance, and vastly impressive in its completeness, will be the show of the National Commercial Gas Association to be held in Atlanta, Ga., from December 2d to December 8th, as a feature of the Seventh Annual Convention of this organization. Gas will be the only feature of the show, the maker of the motive power and the only source of illumination. The latest devices and appliances by which gas is made to do the work of lighting, heating, cooking and the like, will be shown. No electric light or power will be employed anywhere about the building. All of the illuminating features in the building are going to be installed entirely new, especially made for this particular show. All of the booths in the building are to be elevated 6 inches, and the booths will be spaced with 2 railings of galvanized pipe, covered with 4 coats of white enamel paint.

Every single thing in the building will be completely covered up with decorations. All of the entire exhibits will be onthe main floor, and the convention hall will be adjoining these exhibits, with just a door between, so one can step out of the convention hall in which are the exhibits and from the exhibits into the convention hall.

The entire show, including music, decorations, souvenirs and entertaining features, will cost approximately $40,000. The decorating of the building has been made a special feature. Always in past shows I have not felt that the manufacturers have had the kind of decorating they should have. This year we have spared no expense along the lines of decorating, and the decorations now are in the building ready to be put up. One 10 and one 6-inch and one 4 inch gas mains are being run into the building, and as governors will be used there will be a uniform pressure of gas on each appliance all the time.

The letters I am constantly receiving from gas men assure me that every manufacturer is taking especial interest in this show, and that it is going to be the best in the history of the National Commercial

Gas Association. A great many of the manufacturers are planning novel features for their booths. I personally know of two or three manufacturers who are proposing to show but one appliance that they manufacture, who are going to have their booths fixed up elegantly. All the balance of the space will be devoted to some novel feature.

One thing that is extremely encouraging is that all of the space was sold 3 months before the date of the opening of the show. The building was secured the 1st of September, all of the main gas pipe has been run into the building, all of the pipe has been run for the illuminating, and everything will be ready to open the show long before the time comes. This was done so there would not be any carpenters, plumbers, gas fitters or decorators in the building on the morning planned to open the show, which date is December 2d, at 10 o'clock, at which time the doors of the auditorium are to be opened and the most beautifully lighted and decorated building that any gas man has ever seen will be the interior of the auditorium armory, in Atlanta, Ga.

We have prepared a special feature of entertaining: Monday night, December 2d, Mr. P. S. Arkwright, Chairman, Entertaining Committee, is going to give a luncheon at the Piedmont Driving Club, one of the finest and largest clubs in the South. On Wednesday night we are having prepared a special line of vaudeville for the gas men at the Grand Opera House. For example: McIntyre and Heath are going to appear on the stage looking for the N. C. G. A., and on the head of their drum will be "No Gas," and several other features to this particular number. We are having songs especially written for this occasion all pertaining to the gas business. All of the lithia water bottles will have the name of the Association, and "no gas" on them. And all of the souvenirs will carry the name of the Association, the date, the city, etc.

Friday night it is proposed to have a steak dinner that will be prepared by the Chef of the "Holland House," New York city.

Saturday is to be a day that will be long remembered by the gas men. We propose to take them 9 miles out of the city into a cotton patch at "Cold Spring 'Cue' Grounds," there to let them participate in an old-fashioned Georgia barbecue and a brunswick stew. The liquid food on this particular occasion will be beer.

The musical programme will consist of some nationally known band with an organ recital (by Prof. Starnes) every evening. We have not closed the trade for the band yet, but are going to have either the Sousa or Creatore's men.

The entire city will be thrown wide open to the gas men, and we are bound to have 1 week of business and pleasure. We are trying to make arrangements with the weather man whereby the gas men will really think they are in the Sunny South. However, he will not sign up any contract, but we hope that "Old Sol" will be on duty, at least 8 hours each day.

Address of the President (Mr. William Baurhyte) on the Occasion of the Twentieth Annual Meeting, Pacific Coast Gas Association.

As president of the Pacific Coast Gas Association it is my pleasure to welcome you to our Twentieth Annual Convention. We meet this morning in the extreme southern end of the territory covered by our Association, and for the first time in this beautiful city of San Diego, with its arms stretched out to give first welcome to the mighty ships of commerce that are soon to come from the Atlantic through the great canal to our beloved shore. Whether this be your first visit or not, I am sure you cannot but marvel at the progress of this city and the rapidity with which it is coming into the front ranks of the great cities of the Pacific Coast.

The remarkable increase in growth of these great centers of population carries with it the concomitant duty of the gas industry to expend in even a greater ratio, in order to not only meet, but to anticipate the needs of the community. You, gentlemen, know how well this demand upon our resources has been met. Not only has the past year in the gas industry been marked by a continuance of the great activities of the preceding year, but by an ever-increasing ratio of activity in construction, as well as in developing the most modern methods of manufacture.

Nor has this Asssociation failed to benefit by such growth. Its increase in membership is very gratifying, and I desire to particularly welcome those to whom this is their first attendance in convention. Even more noticeable perhaps than the increase in membership has been the number of excellent papers tendered your officers, and, which for lack of time, they have been unable to accept. To encourage this activity rather than strfle it by our inability of proper recognition, it seems to me that at this time an amendment to the by-laws should be suggested extending the period of meeting so as to allow three full days for the business of the Association and the discussion of the papers presented. Since, however, at this convention we are limited to two days, you are requested to be prompt in attendance and to confine your remarks to the point in order to conserve time and enable the members to derive the maximum benefit.

Mr. Frank W. Leach, Jr., my predecessor in offlce, in his address at the Nineteenth Annual Convention, referred to Constitutional Amendment, No. 1, quoting the Act for your benefit. This Act has now been in operation for 2 years, and has vindicated the claims of the Commission who drew it that it would simplify, as well as unify, taxation governing utility companies. While some difficulty was experienced at first with local assessors, on the question of operative and non-operative properties, necessitating hearings before the State Board of Equalization, this friction in the operation of the new law has been negligible as compared with the experience under the old method, involving, as it did, long-drawn contests before local Boards of Equalization, as well as actions at-law in an almost vain effort to secure the same method of assessment for the property of utility companies as was applied to that of individuals.

At one of the meetings of our last session we were honored with the presence of Doctor Benjamin Ide Wheeler, President of the University of California, who discoursed at length upon the benefits to be derived from the establishment of a course of study at that Institution leading to the degree of "Gas Engineer." Quite a large sum was subscribed toward the establishment of such Chair, the very urgent need of which had been graphically told by our esteemed Secretary, Mr. John A. Britton. I might add, however, that, during the past two decades, our great universities have been vieing with each other in turning out electrical engineers, while few, if any, have devoted any attention to gas engineering beyond that involved in the chemical laboratory. It is hoped that the great opportunity thus presented to us will not be lost through lack of funds.

The matter of holding a "Gas Congress," in San Francisco in 1915, was first considered at our convention, in 1910, and again at the annual convention, Oakland, in 1911, at which latter meeting a committee was appointed with full power to actively take up the matter. In a recent letter to our Secretary from the Secretary (Mr. G. G. Ramsdell) of the American Gas Institute, the latter states that the Institute is probably in the most favorable position to bring about the ultimate success of such a Congress, since the greater number of the Associations are in the Eastern half of the country; but, before proceeding with the matter, they desired an expression from our Association as to the feasibility of the plan, since, as he states, the Pacific Coast Gas Association would necessarily have to enter into the arrangement to a considerable extent to insure its success. I trust, therefore, that you will give earnest attention to the report of that committee to be presented at this meeting, as it will express their views regarding the steps necessary to make this the greatest gathering of gas men ever held. For your further information I quote from the American Gas Institute "News" for July, 1912, as follows:

"One of the most important events in the gas history of this country was the gas congress held in connection with the Louisiana Purchase International Exposition, June 15 and 16, 1904, at St. Louis, Mo., in which 10 Gas Associations took part.

"Although the preparation for the meeting was rather hurried and, therefore, not as carefully planned as further time would have allowed, yet the results fully demonstrated the value and importance of such a gathering. The unique character of the meeting permitted the Associations to see the greater and broader field that could be filled by combined numbers and work, in a clearer way than ever before.

"As the tendency of the gas association field at the present time is in this direction, and as some national event seems necessary to awaken proper interest, would it not be well to begin at once to consider the advisability of holding another Congress, to embrace all the Gas Associations, during the Panama-Pacific International Exposition, to be held in San Francisco in 1915?

"If our membership consider it wise to undertake to accomplish this, steps should be taken promptly to enlist the co-operation of other Associations and the arrangement of details to make the movement one of national interest and importance."

Governmental control of public utilities has become an established fact in California. It is unfortunate, however, that the act vesting the Railroad Commission with control over public utilities still permits municipal regulation under certain conditions. Under State control, such as exists in New York, Massachusetts and Wisconsin, better results are obtainable than is possible with local boards, the membership of which very largely represents, and is subservient to, the dominant public opinion. In many instances such control is vested in those whose very political fortunes are due to agitation against public utilities, and who become partisans of the consumer in rate regulation to the disregard of the equities of the companies involved, thus entirely losing sight of the moral responsibility of their trust, a responsibility comparable to that of a judge. State commissioners, well paid and of long tenure of office, are much farther removed from local prejudices and influences. Their rulings, being printed, become precedents for their own future guidance, as well as that of similar bodies in other jurisdictions, as are the decisions of courts of law. The dignity of their position and the realization of their rulings are monuments of national importance, for or against their eruditions and, sense of justice induces the members to give their best thought and judgment to each problem presented. Such a commission more nearly approaches what it should be—a bulwark for the consumer against oppression and extortion and a guarantor to capital of the inviolability of property rights. It is to be hoped that before long a commission with such absolute control throughout this State will be established.

At the meeting held in Los Angeles (1910) it was stated that natural gas in large quantities had been discovered in the Kern County oil fields. Since that time active work has been going on to render the supply in the fields available, and towards the construction of pipe lines of sufficient capacity to transport the gas to the cities of Southern California for distribution to domestic consumers. The supply is believed by those engaged in this work to be sufficient to last for many years, but it is hoped that this belief will be tempered by the experience with natural gas in other localities, particularly in the State of Indiana, and that the use of this gas will be governed by conservation rather than waste.

One year is a very short time in which to notice any great progress in a single field of activity. In the gas industry the progress during the past year has been along steady and useful lines. It is impracticable for me, however, to enumerate the specific improvements. For these I must refer you to the columns of the various technical journals.

The Experience and Wrinkle Editors have been very industrious, and will present for your consideration matters that will prove of the greatest benefit.

Our particular thanks are due to the Novelty Editor, Mr. R. L. Clarks, of San Diego, for his assistance and co-operation along these lines. I also wish to thank the officers and members of the Association for their very cordial co-operation during the year; and also to thank the San Diego Consolidated Gas and Electric Company, through its General Manager, Mr. H. H. Jones, who will be our host at the outing next Thursday, for the many courtesies extended while the details of this convention were being arranged.

Juggling with Illumination

[Communicated by Mr. E. L. Elliott.]

Perhaps no other branch of industry offers so many opportunities for juggling with facts as does that of lighting. People are so horoughly convinced that "Seeing is believing" that they will accept, without question or the slightest inquiry, the evidence of their eyes. As a matter of fact ocular evidence is highly unreliable; the whole craft of legerdemain is proof of such fact. When it comes to the consideration of phenomena that are at all involved, it is very possible for even the careful scientist to be deceived. It should, therefore, be the special aim, on the part of the illuminating engineering fraternity, to devise a system of nomenclature and standards which will make misconception difficult, and to avoid in their discussions all phrases and terms which can possibly lead the layman to erroneous conclusions. The ordinary polar distribution curve, though a strictly legitimate means of conveying information to the initiated, has undoubtedly often given a false impression to those not familiar with this method of expressing the relation between variable quantities. Attention has frequently been called to this source of error in the technical press.

The method of estimating the illuminating efficiency of a light source or installation, by measuring the intensity of illumination produced upon a theoretical horizontal plane 30 inches from the floor, is a still more serious source of error, for the reason that it is a more important quantity—in fact, is the most important measurement of all from the consumer's standpoint. It is difficult to say whether this misleading method of measuring efficiency is the cause or the result of the practice that has grown up of considering only the light that falls beneath the sources as "useful light," or illumination. I was much surprised to see, in your issue of August 9th, a contribution from so competent an engineer as Mr. R. F. Pierce, in which this fallacy is made the basis of a serious argument as to the relative efficiencies of two different forms of gas lamps. In this letter he says:

"The proper measure of comparison, with reference to the relative efficiencies in producing illumination, is the amount of useful light per cubic foot of gas—the light which reaches the working plane, and this is usually very much less than the original output of the lamp."

He then gives figures of two different forms of lamp representing measurements of this kind, and then goes on to say:

"Compared as to total light output, the arc lamp gives about 10 per cent. higher efficiency than the single mantle unit; but, as shown above, is 35 per cent. below the latter, when compared upon the basis of useful light, clearly showing that a comparison as to total light output alone is not only useless, but may be absolutely misleading as far as affording any indication of illuminating value is concerned."

This statement contains two evident fallacies: First, the assumption that only the light which reaches a plane 30 inches from the floor is useful; and, second, that the total flux or output of light from a source is the true measure of the efficiency of the light source. What constitutes "useful light" is dependent entirely upon the particular conditions for which the illumination is used. In a ballroom or auditorium having a ceiling decorated with highly artistic frescoes upward light may be even more useful than downward. In a store where shelving and wall cases are to be observed, illumination on the vertical plane is of equal value with the horizontal. The more recent investigations reported at the convention of the Illuminating Engineering Society seem to settle the point, about which there had previously been a difference of opinion, as to the advantage of light walls and ceiling for purposes of both general and special vision. To consider only that light which falls under the units useful, and to use it alone as a measurement of efficiency, therefore, amounts to juggling with scientific terms. The only method of measuring the efficiency of a light source, as a means of converting energy into light, which is independent of all extraneous influence, is to measure its total output, or flux, without the interposition of any accessory for redirecting or modifying the rays. The relative efficiency of the single mantle burner and multiple cluster, or arc, can, therefore, only be accurately shown by determining the total flux of each in lumens, when equipped with only clear glassware necessary for their operation. The distribution of their light, so as to produce the most useful illumination, is an entirely different matter, and must be accomplished by the means which are the best suited to the particular purpose in hand. This might be a highly absorptive, decorative globe, as in the case of a fine residence, an opaque reflector sending all the reflected light to the ceiling, as in in direct lighting, a plain frosted globe giving approximately uniform intensity in all directions, or a concentrating reflector giving a bright spot of light immediately below, or any combination or variation of these effects. The efficiency of these accessories, however, is an entirely different thing from the efficiency of the light source, and should not be confused with it.

In the concluding paragraph of his contribution Mr. Pierce repeats the error that this fallacy of "useful light" has led him into. He states: "As far as the usefulness of each type (individual burner and arc) for producing illumination is concerned, the consensus of opinion among illuminating engineers is that the gas arc, on account of the absence of reflectors, does not permit the economical distribution of light afforded by the single mantle unit, and while the arc lamp has many desirable features, efficiency in producing illumination is certainly not one of them."

A reflector is not an essential feature of either form of lamp: that is, it is not an integral part of the mechanism—as, for example, the "economizer" in a flaming arc, which acts incidentally as a reflector. It, therefore, has nothing whatever to do with the actual

efficiencies of the lamps. Furthermore, it is equally applicable to either form. Those interested in promoting gas illumination must regret that, in an apparently overzealous effort to defend the single mantle lamp, Mr. Pierce has inadvertently depreciated gas illumination in general by at least seeming to substantiate the charge of uncertainty and unreliability made by its chief competitor.

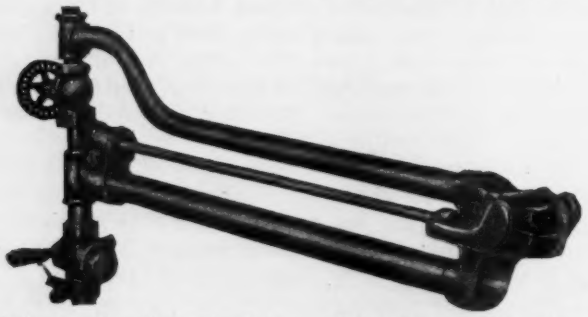
Management & Commercial Methods.

THE USE OF OIL TAR OR COAL TAR IN GAS WORKS.—Prepared by MR. W. N. BEST.—A great many efforts have been made to burn oil tar and coal tar in boilers, in fact, so many have tried to burn this fuel unsuccessfully that a few words may be not only instructive but as well as affecting in a great saving of this fuel, which, as every gas man knows, has a high calorific value, if thoroughly atomized. In many plants considerable tar is made daily, in which instance it is frequently recommended that tar alone be used as fuel in the boiler, the advice being given on the thought that one can then obtain perfect combustion and get the highest possible efficiency out of the fuel. If, however, the plant is small, without much room for tankage, or the capacity of the tar storage tank is small, tar cannot only be burned over a bed of breeze most successfully, but when the supply is exhausted the burner, which is mounted upon swivel joints, can be swung out of position and the burner opening closed, after which coal can be again burned in the boiler. This fuel is also used in combination with coal in plants where peak loads are required, for liquid fuel responds instantly to the service demanded, doubling the capacity of the boiler without injury to the elements of the boiler.

In the burning of either oil or coal tar it is essential to thoroughly atomize the fuel. The burner should cause a fan-shaped blaze in order that the air may be evenly distributed and unite with the automized fuel. The burner should further be of such construction, that it not carbonize, wherefore it is necessary to have the steam orifice above the tar oriffice. The best results are obtained when the oil passes out of the burner in one direction and the steam in the opposite, for this results in every drop of the fuel being dashed into 10,000 molecules.

The calorific value of coal tar is 16,260 B. T. U's per pound the weight being 10 pounds per gallon. Oil tar has a somewhat slightly higher calorific value, being 16,970 B. T. U's per pound, and weighing 9.5 pounds per gallon. Owing to the fact that the calorific value ot these fuels is higher than that of coal, they should appeal to all engineers, and the thorough testing out of the merits of this fuel with the proper burner, will prove it to be all that one could ask or expect.

The accompanying cut illustrates a mounted burner, together with



a regulating cock which minutely regulates the quantity of tar flowing to the burner. This apparatus is simple in construction and operation, and as thousands of them are in successful operation, serving up this kind of fuel to the satisfaction of plant operators, both as to economy and efficiency, possibly this brief story may not be without useful results.

Recent Patent Issues.

Prepared for the AMERICAN GAS LIGHT JOURNAL by ROYAL E. BURNHAM, solicitor of patents and counselor in patent causes, 833 Bond Building, Washington, D. C., from whom illustrations and specifications of any patent mentioned below may be obtained for 20 cents.

1,038.582. Gas Producer. J. H. Hirt, El Paso, Tex., assignor, by mesne assignments, to Allis-Chalmers Co., Milwaukee, Wis.

1,038,691. Apparatus for Generating High Pressure Oil Gas. R. Vuilleumier, New Rochelle, N. Y., assignor to Pintsch Compressing Co., New York City.

1,038,762 Retort Coke Oven System. E. W. King, Syracuse, N. Y., assignor to Semet-Solvay Co., same place.

1,038,772. Safety Gas Burner. O. Lowy, Newark, N. J.

1,038,849. Gas Stove. G. B. Carter, Detroit, Mich., assignor to the H. Wetter Mfg. Co., Memphis, Tenn.

1,038,893. Safety Device for Gas Lamps. F. Huttenlocher, Charlottenburg, Germany.

1,038,941. Gas Valve. F. G. Nicolaus, Cleveland, O., assignor to American Stove Co., St. Louis, Mo.

1,038,965. Gas Burner. J. Roy, Cleveland, O., assignor to American Stove Co., St. Louis, Mo.

Items of Interest
FROM VARIOUS LOCALITIES.

FOR the half-year ended June 30th last, the books of the U. G. I. Company show these results—the comparisons, of course, are made against the returns for the first half of 1911: Earnings, $4,000,363; increase, $116,532; expenses, $589,477; increase, $41,510; net profit, $3,410,885; increase, $75,221; dividends, unchanged; sinking fund, $383,062; increase, $17,884; undivided profits, $807,705; increase, $57,337.

MR. HERBERT GOODWIN has resigned the position of Engineer to the Willimantic (Conn.) Gas and Electric Light Company in order to accept the position of Assistant Superintendent to the New Britain (Conn.) Gas Company. Prior to his leaving Willimantic, some of his associates there presented him with a steel tool chest of the type manufactured by the Vanderman Manufacturing Company, of Hartford, Conn.

MR. PEARSON MACINTOSH, formerly Assistant Superintendent of the Newburyport (Mass.) Gas and Electric Company, has been appointed Superintendent of the gas and electric plants of the Plymouth (Mass.) Company.

MR. TRUMAN BASS has resigned from the service of the Bethlehem (Pa.) Steel Company to accept the position of Assistant Cashier to and for the Allentown (Pa.) Gas Company.

THE following action respecting the death of Mr. Alfred E. Moore, President of the Northern Liberties Gas Company, Philadelphia, Pa., was taken at a special meeting convened by the Secretary at the direction of the Trustees:

"The Trustees of the Northern Liberties Gas Company have learned with feelings of sorrow and regret of the death of our associate and President, Alfred F. Moore.

"While in great sorrow we miss our friend, the Board is nevertheless keenly conscious that a masterly mind has been taken from its councils forever.

"As in his business and private relations, so was he in the performance of his duty, for this old and honorable institution, ever solicitous for its welfare, and showing in every way his constant aim to carry out the relations between this Company and the citizens of the Old Northern Liberties district in a creditable manner to the Company and himself.

"During the long period of 35 years with us, serving as Trustee and later as President, his judgment and conservatism always pointed a way to safety and success.

"His fellow members of this Board, well knowing his strong courage and confidence, realize with the deepest sympathy the loss in his home.

"Those who remain to safeguard the interests of this Company, linger with sadness before laying aside forever such an associate and sterling friend."

"AND Johnnie Murphy's place is no more," so wails a correspondent in New Haven. Continuing, our informant writes: "His noted old tavern, that for years either graced, or disgraced ('according' to whether you are a toper or a teetotaler such verdict would be), the northeast corner of Chapel and East streets, New Haven, will no longer figure as a place of rest and entertainment—possibly I should have employed another word than 'rest,' for 'Murph.' never had a chair in the place. The New Haven Gas Light Company has purchased the plot, and as neither Mr. Nettleton nor Mr. Norcross, has much use for the stuff that Landlord Murphy found so useful and profitable in his lifetime, the license will be allowed to run out. However, New Haven is not to lose 'Murph.,' who will retire from active trading to enjoy the ease that comes from living on one's income. And he certainly deserves such ease, for he was not a brawler; in fact he was a well meaning citizen who had great regard for keeping unsullied the fair fame of a busy New England City."

"EUROPEAN UTILITIES," was the title to the speech of Mr. Emil C. Braun, before the meeting of the "Byllesby Luncheon Club," Chicago, Ills., the afternoon of the 2d inst. Mr. Braun called particular attention to the present large and fast expanding use of electricity by the farmers of European countries, and the speaker's opinion and belief were that this special sort of agent might be profitably gone into by suppliers of electric current in the United States. The

matter was discussed by Mr. Hofman, of the Byllesby engineering division, and by Mr. Renzo Noosa, of its examination and reports' section. Chairman Hewes, in his clever speech introducing Mr. Braun, summarized the latter's career, an interesting feature of which is that Mr. Braun has been connected with the Byllesby corporation since its formation in 1902.

WITHIN the next 3 months it is said the gas plant at Morris, Ills., will be shut down, and the Morris main system will be hooked up to that of the Ottawa (Ills.) plant. The changing over will be under the competent direction of Mr. J. G. Hart.

THE plant of the Pocatello (Idaho) Gas and Power Company, which was badly crippled some time ago by the explosion of an oil tank, is to be reconstructed on different lines. Oil gas has heretofore been made, but Superintendent Gates has been advised by the home office in Salt Lake City to plan a coal gas works, up to a daily output of 80,000 to 100,000 cubic feet. The new plant will be in operation (so the owners declare) by January 1, 1913.

WE understand that the purchase of the old Borker & Stewart dock property by the Ashland (Wis.) Lighting Company eventually means the construction of a new coke or chamber oven gas plant to supersede its present unmodern works.

MR. FLOYD H. DOW has resigned the position of paymaster for the Springfield (Mass.) Gas Light Company to accept a place in the main or Boston offices of the Charles H. Tenney & Company corporation.

THE MacArthur Concrete Pile and Foundation Company our near neighbor in 11 Pine street, New York, has been awarded the contract for placing the foundations under the new factory building which will be erected for the Crane Company, Detroit. This foundation will comprise 500 pedestal piles of the MacArthur type.

THE Northern Central Gas Company, from its general offices in Williamsport, Pa., announces itself as successor to the following companies: Williamsport, Milton and Watsontown, Pa., and declares that all the obligations of the named companies will be assumed by it.

MR. A. S. B. LITTLE, General Manager of the Atlas Paint Company, Nashville, Tenn., has prepared an article for "The Nashville Tennesseean and American, "entitled, "Extracts from an Order Book, or the Essence of Salesmanship," which abounds with "big hints" in respect of how to become and how to continue to be a successful "Knight of the Road." Mr. Little, of course, speaks (or writes) by the book, for his methods have brought about many a sale, the original prospect for which was not the most inviting. Write to the Atlas Paint Company for a copy of Mr. Little's story.

"T. J. S.," writing from Pittsburgh, Pa., under date of the 2d inst., says: "I regret very much to have to inform you of the death of Mr. N. T. Little, who expired suddenly, the morning of Wednesday, September 18th, from an acute attack of diphtheria, which developed while he was on a business visit in Peoria, Ills. Nelson T. Little was Manager of the Louisville branch of the Pittsburgh Water Heater Company, with which Company he had been connected since 1906. His promotion, after joining the sales' organization of that Company, was rapid, and early in 1911 he was appointed Manager of the Louisville branch, in which position he achieved great success. His death will come as a great shock to his many friends in the middle-West; for, in addition to being a most successful business man, and one whose methods were of the cleanest sort, he was well-known and esteemed personally by the majority of the gas men and the plumbing fraternity in this territory. He was in his 35th year, and was the son of Mr. and Mrs. W. H. Little, of Kansas City, Mo. He was a member of the Indiana Gas Association, also of the National Commercial Gas Association, and was an officer in the South Gage Lodge, F. and A. M., Kansas City."

WE are in receipt of a memorial card from the Joseph Dixon Crucible Company, Jersey City, N. J., announcing the lamentable death of its Vice-President. Mr. William Horace Corbin, who passed away September 25th.

THE cash dividend (2½ per cent.) by the Directors of the American Light and Traction Company was made payable the 1st prox. At the same time the Board declared a stock dividend of 2½ shares of the common for every 100 shares of common outstanding. This, surely, is piling Pelion on Ossa; or pelf on profit.

MESSRS. GEORGE A. WALTER and Chas. M. Durland, whose purchase some time ago of the partially dismantled artificial gas plant at Watkins, N. Y., was reported by us, have determined to put it in shape to resume active work. We understand that Mr. F. W. Wendau, of Newark, N. Y., has been employed as Superintendent of the Watkins Glen outfit.

"L. L. M.," writing from Portland, Ore., under date of the 5th inst., says that Mr. H. M. Pabst, Manager of the Portland Gas and Coke Company, with a view of concentrating the manufacture and supply of gas for Portland and the surrounding communities, and then ultimately reducing the selling rate to all, is devising plans to serve Vancouver with its supply. The scheme calls for the placing of a 4-inch main along the Vancouver ferry bridge to Hayden Island, thence across to the S. P. & S. Railroad Bridge to Vancouver. The expense of the proposed line (high pressure type) will be close to $50,000.

MR. GEORGE P. CHAMBERS, formerly Manager of the Alpena (Mich.) Gas Company, has succeeded Mr. O. H. Burmeister as Secretary of the Alpena Chamber of Commerce.

THE Lynn (Mass.) Gas and Electric Light Company is proposing to extend its main system to the settlement known as Lynnfield, a petition for such grant having been filed with the authorities early this month.

MR. ELMER SHERMAN, District Superintendent of Construction, Coast Counties (Cal.) Gas and Electric Company, claims to be the pioneer in pressing an automobile into service as a means of expediting the laying of cables. The named corporation, in the course of extending its distribution facilities on electric current account, found it necessary to run several miles of heavy cable between Hollister and San Juan. The work, seemingly to Mr. Sherman, was progressing so slowly, although two heavy teams were engaged on the drawing task, that he looked about for another "medium." His field of vision finally included his Regal roadster, whereupon he instructed his men to fasten the cable to a rear axle of the car, and turn on the power. The trial worked out so well that the cable was stretched in 2 hours, and the Regal was not a bit the worse for the strain to which it had been subjected.

THE Providence (R. I.) Gas Company has purchased the plot on Pawtucket avenue heretofore known as the "Knowlton Place," and the presumption is that a sub-station will eventually be built thereon to make gas for the supply of that rapidly growing section of suburban Providence.

A PRODUCER gas plant is being set up on the Campus, Engineering Building, University of Washington, under the direction of Prof. E. O. Eustare, Director of the Department of Mechanical Engineering. The installation will cost $5,000, and the equipment includes a 30-horse power gas engine. It will be operated in connection with the engineering laboratory, and a main purpose of the outfit is to have a ready means of determining the gaseous values of the many queer more or less carbonaceous deposits that are encountered in numerous sections of that Coast State.

"GUEST", writing from Waterloo, Ia., under date of September 29, says: DEAR JOURNAL: We, of Waterloo, particularly those concerned in the operating welfare of the Citizens Gas and Electric Company, held a "symposium" one evening last week, brought off mainly to show the hope of many that marriage is not a failure. Within a fairly short time this "season" no fewer than four of our good men and true—J. T. Sweeny, Isaac W. Whitehouse, C. P. Green and F. McSweeney—took unto themselves helpmeets, so it was determined to round them up in due time, quiz them and betoken them. So one evening the four unsuspecting Benedicts were summoned before Secretary H. B. Maynard, in whose lofty presence, and in the "midst" of 50 of their fellow-workmen, each of the Benedicts was congratulated, and also presented with a suitable present. To say they were surprised is certainly speaking the soft pedal. But the evening's surprises were not at an end. Just as Secretary Maynard was about to say, "Bless you, my children," Austin Burt (and some of you Eastern people know how chipper "Aust." can be) stepped forward, and thrust into the hand of the speaker a set of elks' teeth that had been deftly strung in the shape of a pretty watch charm. Mr. Maynard had been peeved, yes, perturbed for many days—and nights—over the loss of a bunch of elks' teeth. He knows now, however, why they were lost and who found them, and his astonishment on realizing the actual state of the case was certainly no less than that of any of the four Benedicts on realizing the situation.

The Market for Gas Securities.

Consolidated was active and strong the past week, although the net change is slight. It came in to-day (Thursday) at 147¼ to 147½. There is absolutely nothing to report respecting it, save that business goes on satisfactorily.

Brooklyn Union is ragged and dull, if not neglected. The nominal quotation for it is 144¼ to 146½. The feature of the week (in fact, it was sufficient to cause the shares to act as the leader of the trading on the Exchange) was a sharp rise in Peoples, of Chicago, equal to 5½ points. It came in this morning at 122 to 122½, and these figures are the highest that have been made in it for some years. The advance is based on the fact of the likelihood of less strained relations between the city and the Company. It is openly asserted that a tentative proposition about like the following is under consideration: The Company to pay 8 per cent. per annum, all cash over that rate of return to be divided in the proportion of 60 per cent. to the city and 40 per cent. to the Company. From the annual report of the President to the shareholders in the Massachusetts Gas Companies, it is shown that the net money gain for 1911-12 exceeded that for 1910-11 by 1½ per cent.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

115 BROADWAY, NEW YORK CITY.

OCTOBER 14.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share:

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked*
Consolidated Gas Co.	$73,177,500	100	147⅜	147½
Central Union Gas Co.—				
1st 5's, due 1972, J. & J.	8,000,000	1,000	108	108
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	106	106
Mutual Gas Co.	8,500,000	100	182	187
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	101	102⅜
New York & Richmond Gas				
Co. (Staten Island)	1,500,000	100	35	50
1st Mtg. Gold Bds. 5 p. ct.	1,500,000	—	98¼	100½
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	103	105
Con. 5's, due 1945, J. & J.	1,500,000	—	95	100
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	99½	101
Standard	5,000,000	100	60	70
Preferred	5,000,000	100	90	100
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	103	105
The Brooklyn Union	15,000,000	1,000	144¾	146½
1st Con. 5's, due 1948, M. & N.	15,000,000	—	106¾	107
Yonkers	299,650	500	180	—
Out-of-Town Companies.				
Bay State	50,000,000	50	3/8	½
" Income Bonds	2,000,000	1,000	—	75
Binghampton Gas Works	450,000	100	—	—
" 1st Mtg. 5's	500,000	1,000	97	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	59	60
Capital, Sacramento	500,000	50	—	35
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed				
Gold Bonds	7,660,000	1,000	104	105¼
Cincinnati Gas and Electric				
Co.	29,500,000	100	87	90
Columbus (O.) Gas Co., 1st				
Mortgage Bonds	1,500,000	1,000	96	98
Columbus (O.) Gas Lt. &				
Heating Co.	1,683,750	100	90¼	91
Preferred	3,026,500	100	75¼	80
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	13,460,084	—		—
Mortgages, 5's	8,400,000	—		—
General Mortgage 4½	10,661,000	—		—
Con. Gas Co., Baltimore				
City, 4½	2,751,000	—		—
Consolidated Gas Co. of N. J.	1,000,000	100	15	—
Con. Mtg. 5's	976,000	1,000	94	96
Bonds	75,000	—	—	100
Detroit City Gas Co.	6,580,000	—	—	50
Detroit Gas Co., 5's	881,000	1,000	75	80
" Prior Lien 5's	5,619,000	1,000	97	100½
Equitable Gas & Fuel Co.,				
Chicago, Bonds	2,000,000	1,000	—	101
Essex and Hudson Gas Co.	6,500,000	—	133	136
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co.,				
1st Mtg. 5's	1,350,000	1,000	100	101
Hartford	750,000	25	190	200
Hudson County Gas Co., of				
New Jersey	10,500,000	—	130	138
" Bonds, 5's	10,500,000	—	104	106
Indianapolis	2,000,000	—	38	45
" Bonds, 5's	2,650,000	—	104¼	105
Jackson Gas Co.	250,000	50	82	—
" 1st Mtg. 5's	290,000	1,000	91	95
Kansas City Gas Light Co.,				
of Missouri	5,000,000	100	—	36
Bonds, 1st 5's	3,822,000	1,000	98½	99
Laclede Gas Co., St. Louis.	10,000,000	100	105½	106½
Preferred	2,500,000	100	99	102
Bonds	10,000,000	1,000	102¾	103
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,570,000	50	180	180
Madison Gas and Electric Co.				
" 1st Mtg. 6's	400,000	1,000	106	
Massachusetts Gas Companies, of Boston	25,000,000	100	94½	94⅝
Preferred	25,000,000	100	95¾	96
Montreal Gas Co., Canada	2,000,000	100	236	238
Nashville Gas Light Co.	1,000,000	100	110	—
Newark, N. J., Con. Gas Co.	6,000,000	—	97	98
Bonds, 6's	6,000,000	—	127	128
New Haven Gas Co.	5,000,000	25	182	190
Peoples Gas Lt. & Coke Co.,				
Chicago	25,000,000	100	122	122¼
1st Mortgage	20,100,000	1,000	102	102½
2d "	2,500,000	1,000	104	—
Rochester Gas & Electric Co.	2,150,000	50	88	—
Preferred	2,150,000	50	118	—
Consolidated 5's	2,000,000	—	104¾	105¼
Pacific Gas and Electric Co.	15,500,000	—	63¾	64½
St. Joseph Gas Co.—				
1st Mtg. 5's	1,000,000	1,000	96	98
St. Paul Gas Light Co.	2,500,000	100	—	—
1st Mortgages, 6's	650,000	1,000	104	105
Extension, 6's	600,000	1,000	112½	115
General Mortgage, 5's	3,447,000	1,000	94	96
Syracuse Gas Co., N. Y.	1,975,000	100	50	55
Bonds	2,047,000	1,000	101	103
Washington (D. C.) Gas Co.	1,800,000	200	420	425
1st Mortgage, 6's	600,300	—	—	—
Western Gas Co., Milwaukee	4,000,000	—	—	—
Wilmington (Del.) Gas Co.	600,000	50	—	—

MEETING TIMES OF THE VARIOUS GAS ASSOCIATIONS.

American Gas Institute.—Annual meeting, October 16 to 18, 1912. Marlborough-Blenheim Hotel, Atlantic City, N. J. Officers: President, Ira C. Copley, Aurora, Ills. Secretary, Geo. G. Ramsdell, 29 West 39th st., N. Y. City.

Canadian Gas Association.—Annual meeting Sept. 1913. Officers: President, Arthur Hewitt, Toronto, Ont.; Secretary and Treasurer, John Keillor, Hamilton, Ont.

Empire State Gas and Electric Association.—Annual meeting, New York City, Oct. 9, 1912. Officers: President, R. M. Searle, Rochester, N. Y.; Secretary, C. H. B. Chapin, 29 W. 39th street. New York City.

Gas Meters.—Next meeting, Oct. 10. Chairman, Will W. Barnes; Commissioners, W. H. Pettes, L. W. Pefly; Secretary, H. Thurston Owens, 42 Pine street, New York City.

Guild of Gas Managers of New England.—Annual meeting, March, 1913. Young's Hotel, Boston; monthly meeting, second Saturday. Officers: President, Walter G. Africa, Manchester, N. H.; Secretary, H. K. Morrison, Brockton, Mass.

Illinois Gas Association.—Annual meeting, March 19th and 20th, 1913. Chicago. Ills. Officers: President, H. O. Channon, Quincy, Ills.; Secretary-Treasurer, Horace H. Clark, 115 No. Oak Park avenue, Oak Park, Ills.

Illuminating Engineering Society.—Annual meeting,———— September, 1913. Meetings of Sections, monthly. Pres., V. R. Lansingh, Cleveland, O.; Sec., Preston S. Millar, 29 W. 39th street, New York City. Sections: New York, Secretary, C. L. Law, 124 West 42d street. New England, Secretary, H. C. Jones, 10 High street, Boston, Mass. Philadelphia, Secretary, L. B. Eichengreen, Broad and Arch streets. Chicago, Secretary, J. B. Jackson, 28 North Market street. Pittsburgh, Secretary, J. C. Mundo, Oliver Building.

Indiana Gas Association.—Annual meeting, March, 1913, Indianapolis. Officers: President, Howard L. Olds, Indianapolis; Vice-President, Wm. Wallace, Lafayette; Secretary-Treasurer, Phimer Eves, Indianapolis.

Iowa District Gas Association.—Annual meeting, Burlington, Ia., May 22, 23, 24, 1913; Officers: President, C. W. Fair, Atlantic, Ia.; Secretary, G. I. Vincent, Des Moines, Ia.

Kansas Gas, Water and Electric Light Association.—Annual meeting, October 17-19. Manhattan, Kas. Officers: President, B. F. Eyer, Manhattan, Kas.; Secretary and Treasurer, J. D. Nicholson, Newton, Kas.

Michigan Gas Association.—Annual meeting, September——1913;———— Officers: President, W. S. Blauvelt, Detroit, Mich; Secretary-Treasurer, Glenn R. Chamberlain, Grand Rapids, Mich.

Missouri Electric Light, Gas, Water Works and Street Railway Association.—Annual meeting, April, 1913; Joplin, Mo. Officers: President, P. A. Bertrand, Joplin, Mo.; Secretary and Treasurer, P. W. Markham, Brookfield, Mo.

National Commercial Gas Association.—Annual meeting and Gas Show, Dec. 2-5, 1912. Atlanta, Ga. Officers: President, C. L. Holman, St. Louis, Mo.; Secretary, Louis Stotz, 29 West 39th street, New York City.

Natural Gas Association.—Annual meeting, Cleveland, O., May, 1913; Officers: President, M. B. Daly, Cleveland, O; Secretary, T. C. Jones, Delaware, O.

New England Gas Association.—Annual meeting, February,————1913. Boston. Officers: President, D. D. Barnum, Worcester, Mass.; Secretary-Treasurer, N. W. Gifford, East Boston, Mass.

New Jersey State Gas Association.—Winter Meeting, December——, Newark N. J.—President, William H. Pettes, Newark, N. J.; Secretary-Treasurer, Arthur H. Osborn Belmar, N. J.

Ohio Gas Association.—Annual meeting, February ———, 1913, Columbus, O.; President, John M. Garard, Columbus, O.; Secretary, L. B. Denning, Columbus, O.

Oklahoma Gas, Electric and Railway Association.—Annual meeting, May, 1913. President, Noel R. Gascho, Alva, Okla.; Secretary, H. V. Bozell, Norman, Okla.

Pacific Coast Gas Association.—Annual meeting, San Jose, Cal., September 16, 17, 18 1913. Officers: President, Henry E. Adams, Stockton, Cal.; Secretary-Treasurer, Henry B. Swick, 445 Sutter street, San Francisco, Cal.

Pennsylvania Gas Association.—Annual meeting, York, Pa., April, 1913; Officers, President, H. H. Ganser, Norristown, Pa.; Secretary-Treasurer, W. O. Lamson, Jr., West Chester, Pa.

Society of Gas Lighting.—Annual meeting Dec., 13, 1912; monthly meetings, second Thursday. Place, New York City. Officers: President, Fred. S. Benson; Secretary, George G. Ramsdell, 29 West 39th street, New York city

Southern Gas Association.—Annual meeting, Charlotte, N. C., April———— 1913, Officers: President, C. E. White, Montgomery, Ala.; Secretary-Treasurer, E. D. Brewer, Atlanta, Ga.

Southwestern Electrical and Gas Association.—Annual meeting. April————1913, Galveston, Tex. Officers: President, F. M. Lege, Jr., Galveston, Tex.; Secretary, H. S. Cooper, 405 Slaughter Bldg., Dallas, Tex.

Wisconsin Gas Association.—Annual meeting, May ———— 1913, Milwaukee, Wis. Officers: President, I. F. Wortendyke, Janesville, Wis.; Secretary-Treasurer, Henry Harmon, Milwaukee, Wis.